

ENCYCLOPAEIDA OF EDUCATION

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**VOL
II**

Current moves have to break this mould and establish technological as well as other vocational studies as essential elements in the curriculum of all children, covering the full range of ability. Without the impetus of government-supported change, we shall continue to direct the ablest away from technological studies and in the direction of what we mistakenly think of as untainted, pure education.

Editor

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Programme Development for Adults

Purposeful, enlightening, and personally significant discussion is not only possible without previously specified learning objectives, it actually requires that no such specifications be made. As Paterson cogently argues, to engage in the collaborative exploration and interpretation of individual experience is the most meaningful form of discussion for adults. But such discussion cannot be tied to previously determined objectives. It must be open and subject to continuous negotiation. Teachers and learners will often hold conflicting beliefs, values, and notions of importance. The most illuminating encounter is one in which these beliefs, values, and notions are externalized and subjected to collaborative analysis and in which participants are always ready to alter lines of inquiry on the basis of newly realized insights or interests.

Our final criticism of previously defined objectives in programme development for adults concerns the question of unplanned, incidental learning. If we use the attainment of previously specified learning objectives as the evaluative criterion for judging the success of an educational effort then we must logically relegate unplanned, serendipitous, and incidental outcomes to a position of secondary importance. Indeed, we may consider such learning to have no real value at all. This idea, however, has proved so repugnant to some educational evaluators that a whole school of goal-free

evaluation has developed as a counter to it. Here, we might simply note that several writers have questioned the idea that the only learning outcomes of any value are those that correspond to previously specified objectives. Apps points out that it is impossible for educators to anticipate all the learning that will result from participation in adult education classes. Jones declares that "the unintended consequences of a learning situation are often much more important than the original restrictive catechism of goals which invariably assumes an instrumental role for learning".

Some empirical support for the view that learners may perceive the unplanned outcomes of course participation to be of considerable significance is presented by Fodor. In her investigation of incidental learning occurring in structured educational experiences, she surveyed 246 adult accounting students in three different colleges. The study confirmed the ubiquity of incidentally learned information, skills, and attitudes in a set of circumstances designed for purposeful learning. Particularly important was the encouragement for such learning received from peers. Fodor advised adult teachers to arrange for informal interactions among peers as part of the course experience, to give greater attention to the cultivation of incidental learning in study skills courses, and to direct students to materials or resources that could help them develop independence and self-knowledge.

It is evident, then, that no programmer can predict the range of learning outcomes that are likely to arise from participation in one class session, let alone from membership in a course lasting several months. When the difficulties of trying to arrange learning outcomes for one adult are multiplied many times, the irrelevance of the predefined objectives approach for most programs becomes immediately apparent. That we still persist in using this approach to guide our program planning style irrespective of the nature of our clientele or our educational purposes is an extreme example of the "emperor's clothing" syndrome.

If, as programmers, we assume that the only valid

learning is that which corresponds to some specific format we have previously arranged, then we are guilty of an unusually high degree of intellectual arrogance. Such arrogance is not uncommon, however. For example, if a learner leaves a programme before the end of the course, such withdrawal is almost always regarded as symptomatic or failure — failure by the learner who did not apply his or her talents with sufficient industry or failure by the teacher who possessed inadequate pedagogic skills. An equally plausible interpretation, however, is that the learner feels that she has gained what was most valuable from the course and decides that, with limited time at her disposal, she would be better advised to pursue other avenues of learning. Indeed, withdrawal might sometimes be interpreted as a sign of the success of the course in that it has so animated a learner's interest in a field that she commits herself to a sustained and independent exploration of its boundaries.

It is timely to remind ourselves, then, that we cannot prescribe for our diverse clienteles the exact range, from, and number of learning outcomes that will result from their participation in our programmes. Learners' perceptions of what valuable learning may bear little relation to the previously determined objectives that we prescribe to determine instructional design, course content, and evaluative procedures. Learners will frequently take from course participation various skills, insights, and information that have nothing to do with the activities and outcomes initially intended by the educator.

In every learning group there may well be an optimal balance that can be attained among facilitators' purposes, participants' expectations, flexibility of format, and sense of overall direction. In the most satisfying of group transactions, this balance will be negotiated continually. This, of course, is not to advocate an abandonment of the concept of educational purpose, whether this be expressed in broad philosophical aims or in terms of specific behavioral or other performance objectives. Although various encounter or support groups

may decide to meet for no other reason than to make contact with others of similar outlook and may be able to spend a great deal of time negotiating purposes, for many learning groups this will not be realistic. Community action groups, engaged in advocacy, work-study groups seeking to acquire occupational skills, and groups meeting to undertake hard intellectual analysis will most likely not wish to spend more than a small part of their time engaged in an initial negotiation of purpose. They will probably benefit from a regular formative evaluation session, in which progress is discussed and fundamental purposes reiterated, but the majority of participants' time will be spent in purposeful learning.

The point is, however, that incidental learning, unplanned acquisition of skills and knowledge, or unanticipated insights should not be regarded by participants or facilitators as somehow innately less valid than previously specified learning outcomes. A sense of common purpose is probably a precondition of effective group interaction and development of a moral culture within group. But it should not become reified to such an extent that deviations from the previously agreed-upon purpose are condemned as irrelevant even before they occur. This, in effect, may block off fruitful avenues of intellectual exploration and act against participants' making meaningful connections between learning activities and their own experiences.

The last comments on this question behavioral objectives might profitably be left to Eisner. As he remarks, "In thousands of ways, teachers draw on images of human virtue as criteria for the direction of their activity as teachers and for the directions they should take with their students. The storehouse of such images is large, and it needs to be. It is modulated according to the circumstances and context and with regard to the particular student with whom the teacher interacts". Why, then, should we regard it as unprofessional or irresponsible for facilitators to encourage learners to explore feelings, perceptions, and avenues of inquiry that were not originally specified as part of the learning group's activities?

Arguably, the most exiting, memorable, and profound moments in learning are those in which individuals stumble into insights and perceptions of which they had previously been unaware. Such moments can rarely be planned beforehand in precise terms, though the facilitator can encourage a learning group culture that will make the likelihood of such moments occurring much stronger. A facilitator who can make unexpected connections between participants' contributions or who encourages learners to depart from the "script" of the sessions's activities to explore themes that were unanticipated but that engage and excite is the most valuable.

The needs revealed by a needs assessment are what provide the goals and aims of the programme, which are then translated into specific objectives curricula, and evaluative criteria. Griffith, however, has called the concept of need an adult education shibboleth in that the favored answer to questions concerning the function of an educational programme is that is it is meeting learners' needs, meeting adults needs or meeting the needs of the community

The concept of need also functions as a "premature ultimate" in discussions concerning the proper role of education and training programmes. A premature ultimate is a concept or term that provokes such reverence and contains such connective potency that its invocation tends to silence any further discussion on a matter. Lawson points out that the term need functions in this manner when question concerning the curricula of training and education programmes are raised. Hence, to say that one is meeting needs in a programmes is to state a case rather than to argue a viewpoint. Discussion on the merits of the case comes to be seen as inappropriate. But to say that as a programmer one is meeting needs is somewhat akin to politicians saying that an action or policy is democratic. In both instances the justification invoked for the decisions taken is ambiguous, while at the same time it forecloses further discussion. What is important to realize is that many different interpretations can be made of

the concept of need and that the concept is irrevocably value laden.

The value-laden aspect of the concept has been discussed in several analyses. As these writers all recognize, those who invoke the concept of need to justify their decisions should specify whether the needs in question are felt by learners or prescribed by educators. It is unpardonable to confuse the two, yet such confusion is frequently evident in the writings and conversations of educators and trainers. The difference between felt needs and prescribed needs has been discussed by the writers cited above and also by this writer. Felt needs are equivalent to the wants, desires, and wishes of the learner. They are perceived and expressed by the learners themselves. Examples of commonly felt needs of adult learners might be how to use microcomputers, how to lose weight through aerobics, how to speak a foreign language, or how to cook in a certain style. Prescribed needs arise when an educator decides that an individual, group, or community falls short of some ideal identified by that educator. Monette calls such a need a normative need that entails three propositions on the part of the educator: "that someone is in a given state, that this state is incompatible with the norms held by some group or by society, and that therefore the state of that someone should be changed".

Felt needs, then, are expressions of preference or desire by learners. Prescribed needs are premised upon educators' beliefs concerning the skills, knowledge, behaviors, and values that they feel adults should acquire. To base education and training programmes on a mix of felt and prescribed needs causes some educators to feel uncomfortable. It seems arrogant and authoritarian compared to the apparently democratic process of responding solely to the felt needs of learners. Nonetheless, it is my contention that a total subscription to a felt needs approach to programme development condemns education to an adaptive, reactive mode and turns educators into mere providers of consumer goods. The exact form of these goods, according to this

rationale, is to be determined by the market forces of expressed learner preferences. The educator becomes an automation of functionary, a technician responding to expressed desires but with no responsibility for suggesting alternative curricula or activities. Such a view absolves the educator from ever having to make value choices or from having to prompt learners to consider the possibility of other ways of thinking, feeling, and behaving. This is entirely unacceptable as a way of viewing an educator's professional responsibilities. Those who behave in this manner and who equate the sum total of education with reacting to expressed learner needs are technicians, not educators.

The element of felt needs will determine some of the courses offered in every programme. It would be hard for educators and trainers of adults to survive in most institutional settings if their programmes did not clearly satisfy the felt needs of a reasonably large number of adults in the vicinity. Programmes will frequently be mounted to attract large numbers of participants so as to allow programmers to engage in educationally crucial but economically unviable work. For example, the price of my running a free Educational Advisory Service for adults in the community was my arranging courses on popular subjects. The service was established to assist adults in charting a path through the bewildering range of formal educational opportunities open to them and to discuss general learning difficulties they were experiencing in their intellectual pursuits. No fee was paid for this service, and it was open to adults who were not enrolled in courses at my center, as well as those who were. Courses on yoga or on vegetarian cooking attracted large numbers of participants and made it easier for me to argue that the Educational Advisory Service should be continued, despite its not generating revenue for the college, since this was offset by the fees collected from yoga and cooking classes.

The danger, however, is that courses dictated by the felt needs rationale will come to comprise the total programme

offering. If this happens, then the programmer will be discouraged from engaging in provocative, controversial, or unpopular alternative programming. Encouraging adults to consider alternative ways of conceiving their world and acting within and upon it often involves a painful readjustment of perceptions. It is a threatening and traumatic experience to be prompted to reinterpret one's dearly held belief systems, value frameworks, and common behaviors from another perspective. We often bridle against being asked to consider the possibility that we might be operating under false assumptions or ignoring important realities.

This perspective on learning is called 'experimental' for two reasons. The first is to tie it clearly to its intellectual origins in the work of Dewey, Lewin, and Piaget. Then second reason is to emphasize the central role that experience plays in the learning process. This differentiates experiential that tend to give primary emphasis to acquisition, manipulation, and recall of abstract symbols, and from behavioral learning theories that deny any role for consciousness and subjective experience in the learning process. It should be emphasized, however, the aim is not to pose experiential learning theory as a third alternative to behavioral and cognitive learning theories, but rather to suggest through experiential learning theory a holistic integrative perspective on learning that combines experience, perception, cognition, and behaviour. This chapter will describe the learning models of Lewin, Dewey, and Piaget and identify the common characteristics they share—characteristics that serve to define the nature of experiential learning.

Three models of the experiential learning process

The Lewinian model of action research and laboratory training

In the techniques of action research and the laboratory method, learning change, and growth are seen to be facilitated best by an integrated process that begins with here-and-now experience followed by collection of data and observations about that experience. The data are then analyzed and the

conclusions of this analysis are fed back to the actors in the experience for their use in the modification of their behaviour and choice of new experiences. Learning is thus conceived as a four-stage cycle. Immediate concrete experience is the basis for observation and reflection. These observations are assimilated into a 'theory' from which new implications for action can be deduced. These implications or hypotheses then serve as guides in acting to create new experiences. Two aspects of this learning model are particularly noteworthy. First is its emphasis on here-and-now concrete experience to validate and test abstract concepts. Immediate personal experience is the focal point for learning, giving life, texture, and subjective personal meaning to abstract concepts and at the same time providing a concrete, publicly shared reference point for testing the implications and validity of ideas created during the learning process. When human beings share an experience, they can share it fully, concretely, and abstractly.

Second, action research and laboratory training are based on feedback processes. Lewin borrowed the concept of feedback from electrical engineering to describe a social learning and problem-solving process that generates valid information to assess deviations from desired goals. This information feedback provides the basis for a continuous process of goal-directed action and evaluation of the consequences of that action. Lewin and his followers believed that much individual and organizational ineffectiveness could be traced ultimately to a lack of adequate feedback processes. This ineffectiveness results from an imbalance between observation and action - either from a tendency for individuals and organizations to emphasize decision and action at the expense of information gathering, or from a tendency to become bogged down by data collection and analysis. The aim of the laboratory method and action research is to integrate these two perspectives into an effective, goal-directed learning process.

Dewey's model of learning

John Dewey's model of the learning process is

remarkably similar to the Lewinian model, although he makes more explicit the developmental nature of learning implied in Lewin's conception of it as a feedback process by describing how learning transforms the impulses, feelings, and desires of concrete experience into higher-order purposeful action.

The formation of purposes is, then, a rather complex intellectual operation. It involves: (1) observation of surrounding conditions; (2) knowledge of what has happened in similarity situations in the past, a knowledge obtained partly by recollection and partly from the information, advice, and warning of those who have had a wider experience; and (3) judgment, which puts together what is observed and what is recalled to see what they signify. A purpose differs from an original impulse and desire through its translation into a plan and method of action based upon foresight of the consequences of action under given observed conditions in a certain way... The crucial educational problem is that of procuring the postponement of immediate action upon desire until observation and judgment have intervened... Mere foresight, even if it takes the form of accurate prediction, is not, of course, enough. The intellectual anticipation, the idea of consequences, must blend with desire and impulse to acquire moving force. It then gives direction to what otherwise is blind, while desire gives ideas impetus and momentum.

Dewey's model of experiential learning is graphically portrayed. We note in his description of learning a similarity with Lewin, in the emphasis on learning as a dialectic process integrating experience and concepts, observation, and action. The impulse of experience gives ideas their moving force, and ideas give direction to impulse. Postponement of immediate action is essential for observation and judgment to intervene, and action is essential for achievement of purpose. It is through the integration of these opposing but symbiotically related processes that sophisticated, mature purpose develops from blind impulse.

Piaget's model of learning and cognitive development

For Piaget, the dimensions of experience and concept, reflection, and action form the basic continua for the development of adult thought. Development from infancy to adulthood moves from a concrete phenomenal view of the world to an abstract constructionist view, from an active egocentric view to a reflective internalized mode of knowing. Piaget also maintained that these have been the major directions of development in scientific knowledge. The learning process whereby this development takes place is a cycle of interaction between the individual and the environment that is similar to the learning models of Dewey and Lewin. In Piaget's terms, the key to learning lies in the mutual interaction of the process of accommodation of concepts or schemes to experience in the world and the process of assimilation of events and experiences from the world into existing concepts and schemes. Learning or, in Piaget's term, intelligent adaptation results from a balanced tension between these two processes. When accommodation processes dominate assimilation, we have imitation—the moulding of oneself to environmental contours or constraints. When assimilation predominates over accommodation, we have play—the imposition of one's concept and images without regard to environmental realities. The process of cognitive growth from concrete to abstract and from active to reflective is based on this continual transaction between assimilation and accommodation, occurring in successive stages, each of which incorporates what has gone before into a new, higher level of cognitive functioning.

Piaget's work has identified four major stages of cognitive growth that emerge from birth to about the age of 14-16. In the first stage the child is predominantly concrete and active in his learning style. This stage is called the sensory-motor stage. Learning is predominantly through feeling, touching, and handling. Representation is based on action—for example, 'a hole is to dig'. Perhaps the greatest accomplishment of this period is the development of goal-

oriented behaviour: "The sensory-motor period shows a remarkable evolution from non-intentional habits to experimental and exploratory activity which is obviously intentional or goal oriented'. Yet the child has few schemes or theories into which he can assimilate events, and as a result, his primary stance towards the world is accommodative. Environment plays a major role in shaping his ideas and intentions. Learning occurs primarily through the association between stimulus and response.

In the second stage, the child retains his concrete orientation but begins to develop a reflective orientation as he begins to internalize actions, converting them to images. This is called the representational stage. Learning is now predominantly iconic in nature, through the manipulation observations and images. The child is now freed somewhat from his immersion in immediate experience and as a result, is free to play with and manipulate his images of the world. At this stage, the child's primary stance towards the world is divergent. He is captivated with his ability to collect images and to view the world from different perspectives.

In the third stage, the intensive development of abstract symbolic powers begins. The first symbolic developmental stage Piaget calls the stage of concrete operations. Learning in this stage is governed by the logic of classes and relations. The child in this stage further increases his independence from his immediate experiential world through the development of inductive powers. Thus, in contrast to the child in the sensory-motor stage whose learning style was dominated by accommodative processes, the child at the stage of concrete operations is more assimilative in his learning style. He relies on concepts and theories to select and give shape to his experiences.

Piaget's final stage of cognitive development comes with the onset of adolescence. In this stage, the adolescent moves from symbolic processes based on concrete operations to the symbolic processes of representational logic, the stage of formal operations. He now returns to a more active

orientation, but it is an active orientation that is now modified by the development of the reflective and abstract power that preceded it. The symbolic powers he now possesses enable him to engage in hypothetico-deductive reasoning. He develops the possible implications of his theories and proceeds to experimentally test which of these are true. Thus his basic learning style is convergent, in contrast to the divergent orientation of the child in the representational stage. This brief outline of Piaget's cognitive development theory identifies those basic developmental processes that shape the basic learning process of adults.

Characteristics of experiential learning

There is a great deal of similarity among the models of the learning process discussed above. Taken together, they form a unique perspective on learning and development, a perspective that can be characterized by the following propositions, which are shared by the three major traditions of experiential learning.

Learning is best conceived as a process, not in terms of outcomes

The emphasis on the process of learning as opposed to the behavioral outcomes distinguishes experiential learning from the idealist approaches of traditional education and from the behavioral theories of learning created by Waston, Hull, Skinner, and others. The theory of experiential learning rests on a different philosophical and epistemological base from behaviourist theories of learning and idealist educational approaches. Modern versions of these latter approaches are based on the empiricist philosophies of Locke and others. This epistemology is based on the ideas that there are elements of consciousness — mental atoms, or in Locke's term 'simple idea' — that always remain the same. The various combination and associations of these consistent form our varying patterns of thought. It is the notion of constant fixed elements of thought that has had such a profound effect on prevailing approaches to learning and education, resulting in a tendency

to define learning in terms of its outcomes, whether these knowledge in an accumulated storehouse of facts or habits representing behavioral responses to specific stimulus conditions. If ideas are seen to be fixed and immutable, it seems possible to measure how much someone has learned by the amount of these fixed ideas the person has accumulated.

Experiential learning theory, however, proceeds from a different set of assumptions. Ideas are not fixed and immutable elements of thought but are formed and re-formed through experience. In all three of the learning models just reviewed, learning is described as a process whereby concepts are derived from, and continuously modified by experience. No two thoughts are ever the same, since experience always intervenes. Learning is an emergent process whose outcomes represent only historical record, not knowledge of the future.

When viewed from the perspective of experiential learning, the tendency to define learning in terms of outcomes can become a definition of nonlearning, in the process sense that the failure to modify ideas and habits as a result of experience is maladaptive. The clearest example of this irony lies in the behaviorist axiom that the strength of a habit can be measured by its resistance to extinction. That is, the more I have 'learned' a given habit, the longer I will persist in behaving that way when it is no longer rewarded. Similarly, there are those who feel that the orientations that conceive of learning in terms of outcomes as opposed to a process of adaptation have had a negative effect on the education system. Jerome Bruner, in his influential book, toward a theory of instruction, makes the point that the purpose of education is to stimulate enquiry and skill in the process of knowledge getting, not to remorize a body of knowledge: 'Knowing is a process, not a product'. Paulo Freire calls the orientation that conceives of education as the transmission of fixed content the 'banking' concept of education:

Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues

communiques and makes deposits which the students patiently receive, memorize, and repeat. This is the 'banking' concept of education, in which the scope of action allowed to the students extends only as far as receiving filing and storing the deposits. They do, it is true, have the opportunity to become collectors or cataloguers of the things they store. But in the last analysis, it is men themselves who are filed away through the lack of creativity, transformation, and knowledge in this misguided system. For apart from inquiry, apart from the praxis, men cannot be truly human. Knowledge emerges only through invention and reinvention, through the restless, impatient, continuing, hopeful inquiry men pursue in the world, with the world, and with each other.

Learning is a continuous process grounded in experience

Knowledge is continuously derived from and tested out in the experiences of the learner. William James, in his studies on the nature of human consciousness, marvelled at the fact that consciousness is continuous. How is it, he asked, that is awake in the morning with the same consciousness, the same thoughts, feelings, memories, and sense of who I that I went to sleep with the night before? Similarly for Dewey, continuity of experience was a powerful truth of human existence, central to the theory of learning: 'the principle of continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after.'

Although we are all aware of the sense of continuity in consciousness and experience to which James and Dewey refer, and take comfort from the predictability and security it provides, there is no occasion in the penumbra of that awareness an element of doubt and uncertainty. How do I reconcile my own sense of continuity and predictability with what at times appears to be a chaotic and unpredictable world around me? I move through my daily round of tasks and meetings with a fair sense of what the issues are, of what others are saying and thinking, and with ideas about what actions to take. Yet I am occasionally upended by unforeseen

circumstances, miscommunications, and dreadful miscalculations. It is in this interplay between expectation and experience that learning occurs.

The fact that learning is a continuous process grounded in experience has important educational implications. Put simply, it implies that all learning is relearning. How easy and tempting it is in designing a course to think of the learner's mind as being as blank as the paper on which we scratch our outline. Yet this is not the case. Every one enters every learning situation with more or less articulate ideas about the topic at hand. We are all psychologists, historians, and atomic physicists. It is just that some of our theories are more crude and incorrect than others. But to focus solely on the refinement and validity of these theories misses the point. The important point is that the people we teach have held these beliefs whatever their quality and that until now they have used them whenever the situation called for them to be atomic physicists, historians or whatever.

Thus, one's job as an educator is not only to implant new ideas but also to dispose of or modify old ones. In many cases, resistance to new ideas stems from their conflict with old beliefs that are inconsistent with them. If the education process begins by bringing out the learners beliefs and theories, examining and testing them, and then integrating the new, more refined ideas into the person's belief systems, the learning process will be facilitated. Piaget has identified two mechanisms by which new ideas are adopted by an individual—integration and substitution. Ideas that evolve through intergration tend to become highly stable parts of the person's conception of the world. On the other hand, when the content of a concept changes by means of substitution, there is always the possibility of a reversion to the earlier level of conceptualization and understanding, or to a dual theory of the world where espoused theories learned through substitution are incongruent with theories-in-use that are more integrated with the person's total conceptual and attitudinal view of the world. It is this latter outcome that

stimulated Argyris and Schon's inquiry into the effectiveness of professional education:

We thought the trouble people have in learning new theories may stem not so much from the inherent difficulty of the new theories as from the existing theories people have that already determine practices. We call their operational theories of action Theories-in-use to distinguish them from the espoused theories that are used to describe and justify behavior. We wondered whether the difficulty in learning new theories of action is related to a disposition to protect the old theory-in-use.

Resolution of conflicts between dialectically opposed modes of adaptation to the world

Each of the three models of experiential learning describes conflicts between opposing ways of dealing with the world, suggesting that learning results from resolution of these conflicts. The Lewinian model emphasizes two such dialectics- the conflict between concrete experience and abstract concepts and the conflict between observation and action. For Dewey, the major dialectic is between the impulse that gives ideas their 'moving force' and reason that gives desire its direction. In Piaget's framework, the twin processes of accommodation of ideas to the external world and assimilation of experience into existing conceptual structures are the moving forces of cognitive development. In Paulo Freire's work, the dialectic nature of learning and adaptation is encompassed in his concept of praxis, which he defines as "reflection and action upon the world in order to transform it". Central to the concept of praxis is the process of naming the world', which is both active and reflective. This process of naming the world is accomplished through dialogue among equals, a joint process of inquiry and learning that Freire sets against the banking concept of education described earlier:

As we attempt to analyze dialogue as a human phenomenon, we discover something which is the essence of dialogue itself: the word. But the word is more than just an

instrument which makes dialogue possible accordingly, we must seek its constitutive elements. Within the word we find two dimensions, reflection and action, in such radical interaction that if one is sacrificed — even in part — the other immediately suffers. There is no true word that is not at the same time a praxis. Thus, to speak a true word is to transform the world.

On the other hand, if action is emphasized exclusively, to the detriment of reflection, the word is converted into activism. The latter — action for action's sake — negates the true praxis and makes dialogues impossible. Either dichotomy, by creating unauthentic forms of existence, creates also unauthentic forms of thought, which reinforce the original dichotomy. Human existence cannot be silent, nor can it be nourished by false words, but only by true words, with which men transform the world. To exist, humanly, is to name the world, to change it. Once named, the world in its turn appears to the namers as a problem and requires of them a new naming. Men are not built in silence, but in words, in work, in action-reflection.

But while to say the true word — which is work, which is praxis — is to transform the world, saying that word is not the privilege of some few men, but the right of every man. Consequently, no one can say a true word alone — nor can he say it for another, in a prescriptive act which robs others of their words.

All the models above suggest the idea that learning is by its very nature tension — and conflict-filled process. New knowledge, skills, or attitudes are achieved through confrontation among four modes. Yet this ideal is difficult to achieve. How can one act and reflect at the same time? How can one be concrete and immediate and still be theoretical? Learning requires abilities that are polar opposites, and the learner, as a result, must continually choose which set of learning abilities he or she will bring to bear in any specific learning situation. More specifically, there are two primary dimensions to the learning process. The first dimension repre-

sents the concrete experiencing of events at one end and abstract conceptualization at the other. The other dimension has active experimentation at one extreme and reflective observation at the other. Thus, in the process of learning, one moves in varying degrees from actor to observer and from specific involvement to general analytic detachment.

In addition, the way in which the conflict among the dialectically opposed modes of adaptation get resolved determines the level of learning that results. If conflicts are resolved by suppression of one mode and/or dominance by another, learning tends to be specialized around the dominant mode and limited in areas controlled by the dominated mode. For example, in Piaget's model, imitation is the result when accommodation processes dominate, and play results when assimilation dominates. Or for Freire, dominance of the active mode results in 'activism', and dominance of the reflective mode results in 'verbalism'.

Learning is an holistic process of adaptation to the world

Experiential learning is not molecular educational concept but rather is a molar concept describing the central process of human adaptation to the social and physical environment. It is a holistic concept much akin to the Jungian theory of psychological types, in that it seeks to describe the emergence of basic life orientations as a function of dialectic tensions between basic modes of relating to the world. To learn is not the special province of a single specialized realm of human functioning of the total organism — thinking, feeling, perceiving, and behaving.

Learning is the major process of human adaptation. This concept of learning is considerably broader than that commonly associated with the school classroom. It occurs in all human settings, from schools to the workplace, from the research laboratory to the management board room, in personal relationships and the aisles of the local grocery. We encompass all life-stages, from childhood to adolescence, to middle and old age. Therefore it encompasses other, more

limited adaptive concepts such as creativity, problem-solving, decision-making, and attitude change that focus heavily on one or another of the basic aspects of adaptation. Thus, creativity research has tended to focus on the divergent factors in adaption such as tolerance for ambiguity, metaphorical thinking, and flexibility, whereas research on decision-making has emphasized more couvergent adaptive factors such as the rational evaluation of solution alternatives.

The cyclic descriptions of the experiential learning process is mirrored in many of the specialized modes of the adaptive process. The common theme in all these models is that all forms of human adaptation approximate scientific inquiry, a point of view articulated most thoroughly by the late George Kelly. Dewey, Lewin, and Piagets in one way or another seem to take the scientific method as their model for the learning process; or to put it another way, they see in the scientific method the highest philosophical and technological refinement of the basic processes of human adaptation. The scientific method, thus, provides a means for describing the holistic integration of all human functions.

The experiential learning cycle in the centre circle and a model of the scientific inquiry process in the outer circle, with models of the problem solving process, the decision making process, and the creative process in between. Although the models all use different terms, there is remarkable similarity in concept among them. This similarity suggests that there may be great payoff in the integration of findings from these specialized areas into a single general adaptive model such as that proposed by experiential learning theory. Burner's work on a theory of instruction shows one example of this potential payoff. His integration of research on cognitive processes, problem-solving, and learning theory provided a rich new perspective for the conduct of education.

When learning is conceived as a holistic adaptive process, it provides conceptual bridges across life situations such as school and work, portraying learning as a continuous, lifelong process. Similarly, this perspective highlights the

similarities among adaptive/learning activities that are commonly called by specialized names - learning conceived holistically includes adaptive activities, that vary in their extension through time and space. Typically, an immediate reaction to a limited situation or problem is not thought of as learning but as performance. Similarly at the other extreme, we do not commonly think of long-term adaptations to one's total life situation as learning but as development. Performance is limited to short-term adaptations to immediate circumstances, learning encompasses somewhat longer-term mastery of generic classes of situations, and development encompasses life-long adaptations to one's total life situation.

Learning involves transactions between the person and the environment

So stated, this proposition must seem obvious. Yet strangely enough, its implication seem to have been widely ignored in research on learning and practice in education, replaced instead by a person-centred psychological view of learning. The casual observer of the traditional educational process would undoubtedly conclude that learning was primarily a personal, internal process requiring only the limited environment of books, teacher, and classroom. Indeed, the wider 'real-world' environment at times seems to be actively rejected by educational systems at all levels.

There is an analogous situation in psychological research on learning and development. In theory, stimulus-response theories of learning describe relationship between environmental stimuli and responses of the organism. But in practice, most of this research involves treating the environmental stimuli as independent variables manipulated artificially by the experimenter to determine their effect on dependent response characteristics. This approach has had two outcomes. The first is a tendency to perceive the person-environment relationship as one-way, placing great emphasis on how environment shapes behaviour with little regard for how behaviour shapes the environment. Second, the models

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learning are essentially decontextualized and lacking in what Egon Brunswick called ecological validity. In the emphasis on scientific control of environmental conditions, laboratory situations were created that bore little resemblance to the environment of real life, resulting in empirically validated models of learning that accurately described behaviour in these artificial settings but could not easily be generalized to subjects in their natural environment.

Similar criticisms have been made of developmental psychology. Piaget's work, for example, has been criticized for its failure to take account of environmental and cultural circumstances. Speaking of developmental psychology in general, Bronfenbrenner states, 'Much of developmental psychology as it now exists is the science of the strange behavior of children in strange situations with strange adults for the briefest possible periods of time'.

In experiential learning theory, the transactional relationship – between the person and the environment is symbolized in the dual meanings of the term experience – one subjective and personal, referring to the person's internal state, as in the experience of joy and happiness', and the other objective and environmental, as in, 'He has 20 years of experiences on this job.' These two forms of experience interpenetrate and interrelate in very complex way, as, for example, in the old saw, 'He doesn't have 20 years of experience, but one year repeated 20 times.' Dewey describes the matter this way:

Experience does not go on simply inside a person. It does go on there, for it influences the formation of attitudes of desire and purpose. But this is not the whole of the story. Every genuine experience has an active side which changes in some degree the objective conditions under which experience are had. The difference between civilization and savagery, to take an example on a large scale, is found in the degree in which previous experiences have changed the objective conditions under which subsequent experiences take place. The existence of roads, of means of rapid movement and

transportation, tools, implements, furniture, electric light and power, are illustrations.

The word 'interaction' assigns equal rights to both factors in experience - objective and internal conditions. Any normal experience is an interplay of these two sets of conditions. Taken together... they form what we call a situation.

The statement that individuals live in a world means, in the concrete, that they live in a series of situations. And when it is said that they live in these situations, the meaning of the word 'in' is different from its meaning when it is said that pennies are 'in' a pocket or paint is 'in' a can. It means, once more, that interaction is going on between an individual and objects and other persons. The conceptions of situation and of interaction are inseparable from each other. An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment, whether the latter consists of persons with whom he is talking about some topic or event, the subject talked about being also a part of the situation; the book he is reading; or the materials of an experiment is performing. The environment, in other words is whatever conditions interact with personal needs, desires, purposes, and capacities to create the experience which is had. Even when a person builds a castle in the air he is interacting which the objects he constructs in fancy.

Although Dewey refers to the relationship between the objective and subjective conditions of experience as an 'interaction', he is struggling in the last portion of the quote above to convey the special, complex nature of the relationship. The word transaction is more appropriate than interaction to describe the relationship between the person and the environment in experiential learning theory, because the connotation of interaction is somehow too mechanical involving unchanging separate entities that become intertwined but retain their separate identities. This is why Dewey attempts to give special meaning to the word in. The concept of transaction implies a more fluid, inter-penetrating

relationship between objective conditions and subjective experience, such that once they become related, both are essentially changed.

Learning is the process of creating knowledge

To understand learning, we must understand the nature and forms of human knowledge and the process whereby this knowledge is created. It has already been emphasized that this process of creation occurs at all levels of sophistication, from the most advanced forms of scientific research to the child's discovery that a rubber ball bounces. Knowledge is the result of the transaction between social knowledge and personal knowledge. The former, as Dewey noted, is the civilized objective accumulation of previous human cultural experience, whereas the latter is the accumulation of the individual person's subjective life experiences. Knowledge results from the transaction between these objective and subjective experiences in a process called learning. Hence, to understand knowledge, we must understand the psychology of the learning process. and to understand learning, we must understand epistemology- the origins, nature, methods, and limits of knowledge.

It is surprising that few learning and cognitive researchers other than Piaget have recognized the intimate relationship between learning and knowledge and hence recognized the need for epistemological as well as psychological inquiry into these related processes. In my own research and practice with experiential learning, I have been impressed with the very practical ramification of the epistemological perspective. In teaching, for example, we have found it essential to take into account the nature of the subject matter in deciding how to help students learn the material at hand. Trying to develop skills in empathic listening is a different educational task, requiring a different teaching approach from that of teaching fundamentals of statistics. Similarly, in consulting work with organizations, we have often seen barriers to communication and problem solving that at root are epistemologically based - that is, based

on conflicting assumptions about the nature of knowledge and truth.

The theory of experiential learning provides a perspective from which to approach these practical problems, suggesting a typology of different knowledge systems that results from the way the dialectic conflicts between adaptive models of concrete experience and abstract conceptualization and the modes of an active experimentation and reflective observation are characteristically resolved in different fields of inquiry. This approach draws on the work of Stephen Pepper, who proposes a system for describing the different viable forms of social knowledge. This system is based on what Pepper calls world hypotheses. World hypotheses correspond to metaphysical systems that define assumptions and rules for the development of refined knowledge from commonsense. Pepper maintains that all knowledge systems are refinements of common sense based on different assumptions about the nature of knowledge and truth. In this process of refinement he sees a basic dilemma. Although common sense is always applicable as a means of explaining an experience, it tends to be imprecise. Refined knowledge, on the other hand, is precise but limited in its application or generalizability because it is based on assumptions or world hypotheses. Thus, common sense requires the criticism of refined knowledge, and refined knowledge requires the security of common sense, suggesting that all social knowledge requires an attitude of partial scepticism in its interpretation.

Understanding how Adults Learn

There can be few intellectual quests that, for educators and trainers of adults, assume so much significance and yet contain so little promise of successful completion as the search for a general theory of adult learning. Kidd has compared such a quest to the search for Eldorado, and reviews such as those of Dubin and Okun and Lasker and Moore confirm that individual learning behaviours are so idiosyncratic as to cast considerable doubt on any general assertions made about adults as learners. Learning activities and learning styles vary so much with physiology, culture, and personality that generalized statements about the nature of adult learning have very low predictive power. The most that Dubin and Okun will say in their review of eight schools of learning theory is that different elements of the theories of these schools can help to explain certain limited phenomena. It is all the more surprising, therefore to hear confident generalizations regarding the characteristics of adult learning pour forth from the lips of graduate students and those presenting research papers.

According to Simpson, the two distinguishing characteristics of adult learning most frequently advanced by theorists are the adult's autonomy of direction in the act of learning and the use of personal experience as a learning resource. It is important to recognize, however, that self-direction in learning is not an empirically verifiable

concomitant of adulthood. There are many individuals who are chronologically adult but who show a marked disinclination to behave in anything approaching a self-directed manner in many areas of their lives. Self-directedness is rather being advanced as a prescriptively defining characteristic of adulthood. Hence, for an act of learning to be characteristically adult, it will have to exhibit some aspect of self-directedness. But before examining further the nature and form of self-directedness, let us consider the range of theoretical perspectives that have been elaborated with regard to adult learning.

Principles of adult learning

To specify generic principles of learning is an activity full of intellectual pitfalls. Even if we leave aside the variables of physiology, personality, and cultural background, we still have to consider the implication of those developmental theories that hold that adults function in very different ways when responding to the societal and personal imperatives required of them in young adulthood, midlife, and old age. This suggests that the generic concept of adulthood is so broad and oversimplified as to be of limited use as a research construct. Nonetheless, in the last twenty-five years a number of respected theorists have made an attempt to identify generalizable principles of adult learning in their quest to build a theory of adult learning that would aid practice.

The earliest of these attempts was that of Gibb, who presented the following principles of adult learning as the basis for a "functional" theory: Learning must be problem centered, learning must be experience centered, experience must be meaningful to the learner, the learner must be free to look at experience, goals must be set and pursued by the learner, and the learner must have feedback about progress toward goals. As with other specifications of principles of adult learning, however, what Gibb actually offers is a mix of pedagogic procedures and learning theory.

Following on from Gibb, Miller identified six crucial conditions for learning premised on the belief that at the

higher levels of human development in adulthood cognitive models of learning, rather than behaviorist ones, were necessary. Thus, Miller argued that students must be adequately motivated to change behavior, they must be aware of the inadequacy of present behaviors, they must have a clear picture of the behavior required, they must have the opportunity to practice required behaviours, they must obtain reinforcement of correct behaviour, and they must have a sequence of appropriate materials. Despite Miller's emphasis on cognition, however, the conditions he specifies actually appear to fit the behaviorist paradigm.

In this review of theories of learning and their applicability to adulthood, Kidd identified the concepts that he felt informed the efforts of researchers into adult learning. These concepts were derived from the changing conditions of the adult's life-span, role changes required by changing societal imperatives, the egalitarian nature of adult student-teacher relationship, the greater differentiation of the organs and functions of adults, the self-directing nature of the adult, the physical, cultural, and emotional meaning of time, and attitudes surrounding aging and the prospect of death.

Gibb, Miller, and Kidd all based their arguments concerning the nature of adult learning on speculative grounds. Knox, however, produced a widely referenced study of adult development and learning in which he offered a number of broad observations concerning adult learning. In Knox's view, for example, adults learn continually and informally as they adults to role changes and other adaptations. Adults' learning achievements are, however, thought to be modified by individual characteristics. The learning context of the physical, social, and personal characteristics surrounding the learning act, as well as the content and pace of learning, also affect the learning achievement.

Knox also concludes that adults tend to underestimate their abilities and by over emphasizing school experience and interests, often perform below their capacity. Longitudinal

studies show a retention of, and sometimes increases in learning abilities during adulthood, though cross-sectional studies tend to contradict this finding. Fluid intelligence decreases and crystallized intelligence increases in adulthood, and adults are able to learn as well in their forties and fifties as in their twenties and thirties, when and if they can control the pace of learning. Knox found the level of formal education to be associated much more with learning ability than with age, and recency of participation in formal education to be correlated with more effective learning. This finding, incidentally, was supported by earlier studies of Knox and Sjorgen Grotelueschen.

Other findings from Knox's survey were that effective learning entailed an active search for meaning in which new tasks were somehow related to earlier activities. Knox found that short-term memory held stable until late adulthood and that long-term memory apparently improved with age. In terms of the mechanics of learning, practice was deemed to be initially important for the reinforcement of learning. Prior learning experiences had the potential to enhance or interfere with new learning. Older adults were able to learn most effectively when they set their own pace, when they took periodic breaks, and when learning episodes were distributed according to a rationale dictated by content. Knox found learning transfer to decrease with age, though his findings on problem-solving abilities were ambiguous, with a decline according to cross-sectional studies and a holding steady with longitudinal studies. The same difference was evident in studies undertaken of critical thinking. Task complexity and creativity were found to reflect individual differences and to be related only marginally to age. Knox concluded his summary in an optimistic vein, declaring that individual differences in learning were mostly unrelated to age and that "almost any adult can learn anything they want to, given time, persistence, and assistance."

One of the most ambitious attempts to identify the cardinal principles of adult learning and to put these to

practical use is that of Brundage and Mackeracher. These writers identify thirty-six learning principles and draw from each principle facilitating and planning implications. For example, Brundage and Mackeracher believe that adults are able to learn throughout their lifetimes. Their past experience can be a help or hindrance to learning. It is through such experience, however, that individuals construct the meanings and value frameworks that in turn determine how they code new stimuli and information. Brundage and Mackeracher declare that past experience needs to be respected by teachers and that it can be directly applied to current situation for good educative effect. Those adults with positive self-concepts are thought to be more responsive to learning. Environments that reinforce the self-concepts of adults, that are supportive of change, and that value the status of learner will produce the greatest amount of learning. These writers judge adults to be strongly motivated to learn in areas relevant to their current developmental tasks, social roles, life crises, and transition periods. The development of skills requires adults to have a clear perception of desired behaviors. Reinterpreting past experience is time consuming and requires a redefinition of values and meanings.

In Brundage and the Mackeracher's view, voluntary participation in education and training is likely to create a non-threatening climate of instruction that will result in a greater amount of learning. Learning will be further enhanced by regular feedback on progress, and positive feedback will act as a reinforcer for the pursuit of more learning. They think that a certain degree of arousal is necessary for learning to occur, whereas stress acts as a major block to learning. Brundage and Mackeracher also think adults learn best when they can control the pace of their learning and when they enjoy good health. However, because each individual will have an idiosyncratic learning style, it is dangerous to prescribe one mode of learning for all adults. Typical points of personally significant transition occur at the ages of twenty, forty, and sixty, and adults are said to be most responsive to learning programs that are related to these transition. Collaborative

modes of teaching and learning will enhance the self-concepts of those involved and result in more meaningful and effective learning. A blend of learning for autonomous mastery of life with participation in groups is said to provide the greatest satisfaction for the learner.

As a result of a career-long exploration of the development of adults' learning-to-learn capacities, Smith has identified six general observations concerning the nature of learning: It is lifelong, it is personal, it involves change, it is partially a function of human development, it pertains to experience, and it is partially intuitive. Adult learners, however, also exhibit four essential characteristics. First, they have multiple roles and responsibilities, and this results in a different orientation to learning from that of children and adolescents. For example, they wish to make good educational use of the finite time they invest in education, they often take responsibility for identifying what they wish to learn, and they have a partially or fully formed self-concept. Second, adults have accumulated many life experiences, and these result in distinct preferences for modes of learning and learning environments, such modes and environments comprising the essentials of individual learning styles. Third, adults pass through a number of developmental phases in the physical, psychological, and social spheres, and the transitions from one phase to another provide for the reinterpretation and rearrangement of past experience. Finally, Smith argues, adult experience anxiety and ambivalence in their orientation to learning. In particular, attempts to become more autonomous and self-directed are likely to involve threatening elements. Anxiety and stress may also be the result of job pressure, relational problems with significant others or of the adult's recalling the anxiety produced by earlier schooling experiences.

These four characteristics of adult learners—their special orientation to learning, their experiential base, their particular developmental changes and tasks, and their anxiety regarding learning—generate, according to Smith, certain conditions for

learning. Adults learn best when they feel the need to learn and when they have a sense of responsibility for what, why, and how they learn. Adults use experience as a resource in learning so the learning content and process must bear a perceived and meaningful relationship to past experience. What is to be learned should be related to the individual's developmental changes and life tasks. The learning method used will foster, to different degrees, the adult's exercise of autonomy. Adults will, however, generally learn best in an atmosphere that is nonthreatening and supportive of experimentation and in which different learning styles are recognized.

Darkenwald and Merriam present a list of eight principles of learning derived from learning process research that they believe can serve as guidelines for effective facilitation. They surmise that adults' readiness to learn depends on the amount of their previous learning, that intrinsic motivation produces more pervasive and permanent learning, that positive reinforcement is effective, that the material to be learned should be presented in some organized fashion, that learning is enhanced by repetition, that meaningful tasks and material are more fully and easily learned, that active participation in learning improves retention, and that environmental factors affect learning.

The specification of principles of adult learning undertaken by Gibb, Miller, Kidd, Knox, Brundage and Mackeracher, Smith, and Darkenwald and Merriam can be summarized as follows: Adults learn throughout their lives, with the negotiations of the transitional stages in the life-span being the immediate causes and motives for much of this learning. They exhibit diverse learning styles-strategies for coding information, cognitive procedures, mental sets and learn in different ways, at different times, for different purposes. As a rule, however, they like their learning activities to be problem centered and to be meaningful to their life situation, and they want the learning outcomes to have some immediacy of application. The past experiences of adults

affect their current learning, sometimes serving as an enhancement, sometimes as a hindrance. Effective learning is also linked to the adult's subscription to a self-concept of himself or herself as a learner. Finally, adults exhibit a tendency toward self-directedness in their learning.

Such conclusions constitute a catechism familiar to educators and trainers of adults, as well as to learning theorists. They support Simpson's contention referred to at the outset of this chapter that adult learning theorists most commonly emphasize the experiential dimension of adult learning and stress the self-directedness of adults. Self-directedness is seen both as an empirically observable trait and as a propensity that should be encouraged. We should note, however, that the samples for the studies on which these generalizations concerning the nature of adult learning are based are culturally specific. To this extent, the research on adult learning is no different from that on its childhood equivalent, where, as a massive comparative study of primary school quality recently acknowledged, "With less than 5 per cent of the world's school population, the United States accounts for the majority of the world's empirical research on education".

In research into adult learning, moreover, the adults who form the sampling frames are for the most part ethnically homogeneous; that is, they are Causasian Americans. They are also drawn chiefly from middle-class or upwardly mobile working-class families, since this is the foremost clientele of continuing education programs. To base a comprehensive theory of adult learning on observations of white, middle-class Americans in continuing or extension education classes in the post-Second World War era is conceptually and empirically naive. It is, admittedly, cumbersome to preface every comment regarding adult learning theory with a caveat concerning the cultural and class specificity of one's sample and, hence, the limited generalizability of one's conclusions. Nonetheless, we fall far too frequently into the mistake of

declaring that research reveals that adults, in a generic sense, learn in a certain way.

The eagerness to construct an empirically verifiable theory of adult learning is inextricably bound up with the quest for professional identity on the part of adult educators. As much as we would like to believe that the conduct and dissemination of research are motivated by an intellectually altruistic search for truth, it must be recognized that the definition of research "problems" and the selection of appropriate topics for investigation often reflect wider societal or professional imperatives. In this case, the reality is that the discovery of a set of learning behaviors that are unmistakably adult would be a cause for substantial professional celebration. If we could discover certain empirically verifiable differences in learning styles between children and adults, we could lay claim to a substantive area for research that would be unchallengeably the property of educators and trainers of adults. Such a claim would provide us with a professional identity. It would ease the sense of insecurity and defensiveness that frequently assails educators and trainers of adults in all settings when faced with the accusation that they are practicing a non-discipline. The discovery of an empirically discrete domain of adult learning would grant to us an intellectual and professional *raison d'être*.

Such a revelation is unlikely to transpire for some considerable time, and it may be that the most empirically attestable claim that can be made on behalf of adult learning style concerns their range and diversity. Certainly we should be wary of claiming too high a level of generalizability for theories and concepts of adult learning derived from studies of white Americans in the lower-middle, middle and upper classes. How can we write confidently of adult learning style in any generic sense when we know little of the cognitive operations of, for example, Asian peasants, African tribespeople or Chinese cooperative labourers? Even within North American culture the empirical accuracy of generalizations about adult learning principles is highly

questionable in that we have few studies of the learning styles of Native Americans, while working-class adults, Hispanics, blacks, or orientals.

Applying new research instruments

The body of research literature discussed in the preceding section is one characterized by a mixture of speculation and empirically observed features of adult learning. The studies cited use a variety of methodological approaches and survey different samples, with the result that baseline comparisons are extremely hard to make. In recent years a number of researchers and practitioners have sought to synthesize the findings of this body of research into some framework of central adult learning principles. These central principles have then been converted into various research instruments that their designers believe can be applied to examining the extent to which principles of adult learning are being exemplified in any given practice setting. Two of these instruments the Principles of Adult Learning Scale (PALS) and the Andragogy in Practice Inventory (API) — were designed to test the presence of effective facilitation in practice rather than to provide empirical measures of forms of adult learning. In other words, both these instruments can be used to determine whether or not teachers or programmers are behaving as effective facilitators.

The PALS was devised by Conti to measure the extent to which practitioners supported the collaborative mode of teaching-learning that is usually cited by writers in the field as an exemplification of good practice. Conti surveyed a number of highly regarded theorists, including Freire, Lindeman, Houle, Knox, Kidd, Knowles, and Bergevin, to discover what they held to be the basic assumptions of adult learning. Not surprisingly, his findings are similar to those identified by the theorists reviewed in the present chapter and to the central principles of effective facilitation. Hence, Conti found these writers to argue that "the curriculum should be learner centered, that learning episodes should capitalize on the learner's experience, that adults are self-directed, that the

learner should participate in needs diagnosis, goals formation, and outcomes evaluation, that adults are problem centered, and that the teacher should serve as a facilitator rather than as a repository of facts".

For his doctoral dissertation, Conti determined "to develop and validate an instrument capable of measuring the degree to which adult education practitioners accept and adhere to the adult learning principles that are congruent with the collaborative teaching-learning mode". Drawing on Flanders's Interaction Analysis Categories that were established to assess student initiating actions, Conti constructed a five-point Likert scale to record practitioner responses on a number of items that were based on collaborative principles but "reworded in behavioral terms compatible with realistic experiences of practitioners". For each of the items said to describe actions congruent with the collaborative mode, a separate item was included to describe mode. The PALS instrument was tested for construct, content, and criterion-related validity by two juries of adult education professors and fifty-seven practitioners in six separate programs. Testing for reliability was undertaken in phase two of the field testing by twice administering the scale to twenty-three adult basic education practitioners in Chicago and comparing the congruence of the scores. The outcome of the study was a forty-four-item rating scale that Conti believes can be used to assess the effectiveness of collaborative modes in producing significant learning gains or to identify themes and topics around which in-service training activities could be designed for staff development.

Since its initial framing, Conti reports that the PALS has been used in numerous training workshops and that it has formed the basis for three research studies. Dinges used the instrument to study 265 Illinois ABE teachers in a staff development needs assessment, Pearson administered PALS to 99 midwestern training directors to investigate the relationship between managerial style and the adoption of collaborative modes of facilitation, and Douglass used it to

examine the relationship of professional training in educating adults to the degree of support granted to the collaborative mode by 204 hospital educators and cooperative extension educators in the state of Washington. In addition, scores have been collected from 153 Texas practitioners in adult basic and allied health education. Not surprisingly, perhaps, the research of Pearson and Kouglass indicates that the chief variable positively correlated with the adoption of a collaborative approach in management training, hospital education, and cooperative extension is the amount of previous formal education undertaken by these practitioners. It seems, from these studies at least, that those who are trained as educators of adults do indeed incorporate collaborative principles into their subsequent professional activities. After Conti's presentation of the PALS research at a recent conference of university adult educators in Britain, we can expect some cross-cultural validation of this instrument through comparative analyses of educators' use of the collaborative mode in Britain and North America.

Turning to the API, which was devised by Suanmali on the basis of Mezirow's interpretation of andragogy and his specification of a charter for andragogy, we find that it is a ten item inventory of educator practices. To help adults enhance their capability to function as self-directed learners, the education must:

1. progressively decrease the learner's dependency on the educators;
2. help the learner to understand how to use learning resources—especially the experiences of others, including the educator, and how to engage others in reciprocal learning relations;
3. assist the learner to define his/her learning needs—both in terms of immediate awareness and of understanding the cultural and psychological assumptions influencing his/her perceptions of needs;
4. assist learners to assume increasing responsibility for

- defining their learning objectives, planning their own learning programs and evaluating their progress;
5. organize what is to be learned in relationship to his/her current personal problems, concerns and levels of understanding;
 6. foster learner decision-making-select learner-relevant learning experiences which require choosing, expand the learner's range of options, facilitate taking the perspectives of others who have alternative ways of understanding;
 7. encourage the use of criteria for judging which are increasingly inclusive and differentiating in awareness, self-reflexive and integrative of experience;
 8. facilitate problem-posing and problem-solving, including problems associated with the implementation of individual and collective action; recognition of relationship between personal problems and public issues;
 9. reinforce the self concept of the learner as a learner and doer by providing for progressive mastery; supportive climate with feedback to encourage provisional efforts to change and to take risks; avoidance of competitive judgment of performance; appropriate use of mutual support groups;
 10. emphasize experiential, participative and projective instructional methods; appropriate use of modelling and learning contracts;

This instrument was examined by 147 members of the American Commission of Professors of Adult Education. The professors interviewed displayed a remarkable degree of agreement concerning the extent to which the practices identified above were indicative of good andragogical practice.

Finally, James and Manley have conducted small-scale

Delphi investigations of what practitioners and professors of adult education regard as exemplary principles of practice that facilitate adult learning. Manley's review of the literature and her survey of eighteen members of the American Commission of Professors of Adult Education yield a familiar cluster of categories. The professors surveyed agree that adult learning is best facilitated when learners are engaged as participants in the design of learning, when they are encouraged to be self-directed, when the educator functions as a facilitator rather than didactic instructor, when individual learner needs and learning styles are taken into account, when a climate conducive to learning is established, when learners' past experiences are utilized in the classroom, and when learning activities are deemed to have some direct relevance or utility to the learners' circumstances.

In a more ambitious study, similar to Conti's researches, James devised the following set of basic principles of adult learning after a team of researchers had undertaken a search of articles, research reports, dissertations, and textbooks on adult learning.

1. Adults maintain the ability to learn;
2. Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills;
3. Adults experience a gradual decline in physical/sensory capabilities;
4. Experience of the learner is a major resource in learning situations;
5. Self-concept moves from dependency to independency as individuals grow in responsibilities, experience and confidence;
6. Adults tend to be life-centered in their orientation to learning;
7. Adults are motivated to learn by a variety of factors;

8. Active learner participation in the learning process contributes to learning;
9. A comfortable supportive environment is a key to successful learning.

All nine principles were validated by a jury of national adult education leaders, and from these principles a questionnaire was constructed comprising forty-five statements. The questionnaire was then administered to educators in five settings: hospital patient education, university extension programs, community colleges, business and industry, and agricultural extension. Some interesting differentials emerged in the study. Hospital patient educators, university extension instructors, community college instructors, and agricultural extension instructors all perceived themselves as implementing all the principles identified "frequently," while business and industry personnel perceived themselves as implementing principles one, two, and eight "sometimes" but the others "frequently." An interesting difference was also revealed regarding the principle ranked highest by these practitioners. In hospitals, universities, community colleges, and agricultural extension, principle nine "a comfortable, supportive environment is a key to successful learning", was ranked as the most important. In business and industry, however, principle three "adults experience a gradual decline in physical/sensory capabilities", was ranked highest. In contrast to the findings of Conti's PALS research, the principle referring most explicitly to collaborative modes of teaching and learning was ranked relatively low by instructors in all five settings. In particular, a number of studies of how practitioners do or do not conform to principles of good practice in real life programme development settings will be examined. For the present it is enough to say that the foregoing instruments all represent contributions toward building a body of research on principles of good practice. The next chapter takes one particular aspect of the principles previously discussed—that of the adult's assumption of self-direction in learning—and

examines the validity of this concept as an operational aim to be pursued in teaching-learning transactions. It also considers critically the research on which ideas about self-direction in adult learning are based, and it proposes a reinterpretation of this concept to take into account the extent to which self-directed adults exhibit an empowered autonomy in their learning activities.

Role of the Adult Educator

The claims emerge from a perspective on practice which views adult education as an array of techniques focused largely upon the individual learner. Unhappily, the uncritical acceptance of an ideology of technique by many adult educators has tended to individuate the learner and reduce learning formats to narrowly defined lists of skills or 'competencies'. The individuation of learners, via technicist programme design, overrides prospects for the acquisition of competence through thoughtful discourse and reflective action with others. Relevant dimensions of social and community contexts in which the individual lives and works with others are thus overlooked in a technocratic pedagogical orientation.

This eventuality has been marked by a deployment of methodology on to the adult learning context under the banner of such artificially construed notions as self-directed learning, competency-based education, and learning how to learn. The heavy concentration of professionalized expertise and techniques on to the condition of the individualized adult learner evades a critical need for reflection about what adult educators themselves do and what they are. This points to deficiencies in modern adult education practice of both a practical and an ethical nature.

Some readers may be disturbed by an endeavour which

undermines themes that have sustained the facade of more or less clearly defined and technicist modern practice of adult education. If this begins to crumble how do those of us who identify ourselves as belonging to a cadre of adult educators make sense of what it is we are and what it is we do in our occupational roles? This is where the notion of vocation comes in.

In an era when personal career advancement, professionalization, and upward social mobility are so much in vogue, the idea of vocation can seem oddly out of place—even pretentious. Yet this possibility is worth the risk, and can be avoided if the educational task confronting today's practitioners is not idealized. The term conveys a sense of thoughtful ethical commitment that some adult educators believe can be packaged and plugged into a modern practice just like any other component. This concern to add an ethical component, virtually as an after thought, is indicative of an occupation in search of an identity in which leading figures who write the texts view practitioners as technicians rather than intellectuals. In making vocation a paramount concern, we are not introducing a radically new orientation to the field of adult education but, rather, one that has been pushed to the margins by obsession with pedagogical technique and management by objectives. An ideology of technique, with its commitment to technique and efficiency for the sake of technique and efficiency, leaves us with little appreciation of our past. It is, in effect, a historical. To an extent, then, we are evoking a sense of conviviality and shared responsibility exemplified in the notion of adult education as 'friends educating each other'. For the idealists among us and, one would hope, the idealist within each of us, this convivial dimension of adult education, sustained by generous aesthetic and moral impulses, is sufficient. However - and it is important to emphasize this for the benefit of those who fear that adult educators might become bogged down, irrelevantly, in some romanticized view of the world - such an orientation readily incorporates practical use of technique, technology, and concern for competent performance. In doing

so, it leaves open prospects for on going discourse about whose interests ought to be served by such innovations, the underlying assumptions from which they emerge and the purposes to be achieved. A sense of vocation calls for a critical, self-reflective, practice of adult education.

A sense of vocation is not intended to imply some kind of essence of adult education. Rather, it is invoked to underscore the significance of normative discourse about practice and 'passionate devotion' in the modern era when professionals, technicians, and bureaucrats tend to feel uncomfortable with such phraseology. In this regard, the quotation by Max Weber which opens this chapter is particularly instructive. Weber taught about what he pessimistically viewed as the inevitability of restrictive bureaucratizing effects which accompany modernity. And yet he managed to combine an ethical language of possibility with critical analysis and thought it important to talk in terms of vocational commitment.

Vocation refers to a calling and entails firm commitment to the performance of worthwhile activities that are not merely calculated to advance personal career aspirations or fulfil minimum job expectations. It incorporates a strong ethical dimension, emphasizing an unavoidable necessity to make judgements about what should or should not be done and a readiness to take sides on significant issues. This pre-eminence of ethical considerations as a basis for day-to-day practice contrasts with the kind of pedagogical orientations and practices that are to be steered largely by technical rationality. Efficiency and expertise are secondary to the larger issues of human fulfilment and equality. They are not sufficient conditions for the development of a more just and humane society. Vocation stresses personal responsibility on the part of the practitioner that cannot be abrogated by technicist prescriptions and preconceived formulations characterizing a cult of efficiency. It entails careful, self-conscious reflection about one's work- an intellectual commitment.

Clearly, the view of the practitioner's role taken here is

different from that envisaged by much of the literature on the preparation of professional adult educators. It would be naive to suggest, for instance, that a revitalized emphasis on vocation has anything in common with a prevalent orientation that eschews careful critical reflection on the nature of practice and is largely concerned with distilling a narrow range of essential training skills from a theoretical psychologicistic models. This incommensurability between the two viewpoints has not been understood by certain academics who now want to address the ethical concerns of a vocation, or critical practice, within the frame-work of a technical rationality. Their major preoccupation is not so much with examining the ends of adult education practice, unless effecting consensus is the end, as with the means. Vocational commitment, on the other hand, implies a refusal to be satisfied with the greater sophistication of technique, consensus-forming strategies, as the sole end of one's activity.

The fact that genuine vocational innterests cannot emanate from technical rationality does not, of course, preclude the intelligent use of technique by the reflective practitioner. In common usage, the term vocation is used in connection with a trade, occupation, or profession. It carries with it a clear-cut practical connotation along with an ethical component while avoiding a technical rationality which guides much of modern professionalized practice. Ethically based and practical orientations provide a context from which rational, non-coercive, decision-making about the relevant incorporation of technique can be carried out. The subordination of technique and technology to ethical and practical considerations is necessary for human-scale, less impersonal; programming and development of a king Ivan Illich has in mind when he writes about Tools for Conviviality.

The cult of efficiency in education has had a long run for its money, yet problems off illiteracy, human competence, and global survival are more starkly apparent than ever, fostered rather than alleviated by its myopic one-dimensional vision.

A need for continuing self-conscious reflection on what

adult educators should do and should be cannot be sensibly dispensed with by the adoption of strategies emanating from the ideology of technique. Therefore, attention to ethical and practical matters intrinsic to the notion of vocation is necessary to make up for shortfalls in a modern practice of adult education wedded to pedagogical strategies derived from a pervasive technical rationality. The critique of technical rationality and the disclosure of its many harmful effects on our everyday lives and future prospects for human survival on this planet is, in itself, an on-going mission for a committed critical practice of adult education.

The clear sense of mission that characterizes a concept of vocation could well be a source of uneasiness, especially among adult educators who harbour a secular humanist world view, since it is often associated with the imposition of religious ideas, accompanied by cultural invasion, by representatives of dominant national or ethnic interests. Critics of missionary endeavours are usually referring to inappropriate, intrusive strategies that have brought deleterious effects to the everyday lives of certain groups of indigenous people in ways not unlike those that emerged under the umbrella of technical rationalism. They point to evidence revealing that, in many parts of the world, the educational efforts of missionary undertakings have played a significant role, unwittingly or otherwise, in paving the way for economic exploitation and cultural imperialism. Adult educators need to be alert to this kind of pedagogical zeal and the ways in which it can support repressive initiatives. However, a missionary commitment does not have to entail irrational zealotry or unwarranted intrusion.

While it would be remiss of adult educators to gloss over the potentially harmful once consequences of missionary endeavour, a sense of mission becomes integral to any extended educational process. It can scarcely be avoided where knowledge in the form of ideas, beliefs, strategies, and know-how has been identified as beneficial and worthy of dissemination. Even teaching that it is usually best to attend to

one's own affairs and personal development, leaving the learning of others to themselves, becomes a kind of missionary endeavour.' The idea of mission, then, despite the unfortunate connotations that often accompany it, should be sustained as a vital characteristic of any adult education endeavour. As a source of insight and inspiration, the notion of vocation is strengthened through its connection to a sense of mission.

In this regard, it is instructive to look, for example, in the work of Paulo Freire. A religious commitment can be clearly discerned in his pedagogy. In an essay entitled *Paulo Freire: Educationalist of a Revolutionary Christian Movement*, Peter Jarvis 'locates Freire within the prophetic tradition of the Christian Church' and examines the nature of his 'social and political involvement in the affairs of the day in order to influence the future'. Yet Freire's careful sense of educational mission, expressed through a pedagogy of the oppressed, is self-critical and extremely sensitive to the potentially harmful effects of intrusive strategies. Even if his approach is ultimately 'a utopian vision', as Jarvis suggests, Freire's pedagogy manifests itself in a thoughtful engagement with the concrete reality of people's everyday lives.

Fostering the notion of a reasonable sense of vision, with its clear-cut ethical connotations and reference to commitment, precludes the need for specialist writings on how to be ethical in adult education practice. Though such texts manifest an uncomfortable awareness that critical and moral issues are obscured by the technocratic bent of language which describes modern adult education practice, they are themselves cast in the same mould. For the most part, recent writings on ethics sustain the overall text of professional practice emanating from an ideology of technique. These texts on ethical conduct are plugged in as components of modern professionalized practice, but offer little prospect of creating an arena in which ethical discourse about everyday practice can flourish. They do not serve to unsettle the technicist paradigm, or overall text, that characterizes contemporary adult education practice. Rather, they are systematically integrated

into it so that existing frameworks for ensuring consensus and the predominantly non-reflective nature of discourse on practice remain intact.

A mission for adult education associated with a sense of vocation, rather than one embedded in an ideology of technique which promotes individualism, requires that ethical language is fostered as an integral aspect of adult education discourse. Thus, a value is placed on making judgements, and reflecting on their consequences, on an individual basis and in concert with others. This does presuppose a willingness to dissociate adult education practice from a paradigm, or an overall 'text', that seeks to define it in terms of technique.

The issue of competence

While a sense of mission and strong commitment is an essential constituent of vocation, it is not sufficient. Unless there is a deliberate effort to incorporate competent performance, the energy released through enthusiastic commitment and a sense of mission manifests itself in mere activism. The spontaneity and *ad hoc* strategies that characterize the latter may have short-term impressive effects. However, lacking the discipline and rational discourse that emanate from recognition of a need for competent and specific performance, activism fails to sustain any worthwhile line of endeavour over a significant period of time.

Competent performance as an aspect of vocation does not necessitate the mastery of predetermined number of skills, behaviours, or competences. It can be conceptualized in practical and ethical terms, without recourse to technical rationality of the kind. When attempts are made to define competent performance mechanically in terms of technocratic formulations and reductionistic competence statements, the thoughtful commitment that holds together the practical and ethical dimensions of vocational practice begins to unravel. Such formulations and mechanistic descriptions characterize competent performance in a way that forecloses on the need

for us to reflect carefully on what it is we do, and what we are as adult educators.

By uncritically embracing technicist formulations and simplistic training models, adult education practice becomes prey to bureaucratic and political interests that seek to de-skill the adult educator's role. These interests are strengthened by a rationale that suggests fewer full-time educators are necessary or that their function—supported by pedagogical or adequately performed by part-timers. From this perspective, one of progressive de-skilling, talk of vocation and the necessity for thoughtful practical commitment becomes redundant. The implication is that an adequate formula to deal with any relevant activity can be readily accessed from a standardized package.

The problem of de-skilling that manifests itself in contemporary education and training practices has drawn sporadic critical commentary from a few writers. Yet such critique has been far from sufficient to spark resistance to a pervasive trend that, in North America especially, gains impetus from the competency based education movement. Under the banner of accountability, efficiency, effectiveness, and relevance, it promotes a narrow technicist approach to curriculum innovation that serves bureaucratic needs for external planning and decision-making but fails to provide relevant pedagogical support for practitioners who seek to enhance their own long-term competence as well as that of adult learners. In the present political climate, so-called competency-based education defines useful knowledge in the light of bureaucratic and corporate needs. Resistance to this destructive approach to education and training must accompany any serious attempts to recover a strong sense of vocation for the modern practice of adult education.

The rejection of predetermined technicist stipulations as a steering mechanism for assessing competent performance does not, of course, preclude appropriate use of technology as well as strategies for relevant action and legitimate knowledge from sources outside the immediate context. Technique and

technology are not in themselves coercive. It is an irrational deployment of technique and technology for their own sake that becomes repressive.

A relevant approach to competent performance as integral to adult education as vocation requires a predisposition to take the pause necessary for identifying, focusing, and reflecting on the practical problem at hand. This process includes a recognition that the context in which it emerges will shape the problem at hand, to some extent or other, in a distinctive way. As one engages with the problem, it usually becomes apparent that well-proven recipes, techniques, and procedures can be applied. Where the problem presents itself in the form of a relatively familiar task - one that is largely of a technical nature, for example - it is typically accomplished without much in the way of self-conscious interpretative analysis. For most of us, competent performance at this level, through thoughtful practical experience, is often guided in the initial stages by someone who already has the required experience and competence.

Where the problem situation is more complex and other people are involved the interpretative aspect becomes more demanding. The practitioner should then take into account the motivations of other people involved in the context, the stakeholders, as well as his or her own motivations. An ethical dimension emerges; judgements have to be made and, subsequently, assessed. While familiar techniques can be relevantly incorporated, the situation at hand is likely to include some unfamiliar features that challenge the practitioner's powers of reflection and analysis. Evidence of competence is assessed from the way in which the familiar is deployed, with relevantly selected resources, to engage with unfamiliar dimensions at hand.

Loosely defined conjecturing and haphazard activities do not constitute acceptable evidence of competent performance. The overall process needs to be systematic and calls for thoughtful, relevant structuring. We become better at

it—more competent—with practice informed by careful reflection and analysis.

Careful reflection on our practice is not automatic. It is difficult, and not always feasible, to put aside a taken-for-granted stance as we go about our mainly routine day-to-day tasks. A disposition towards careful reflection, on our own account and in concert with others, has to be learned. We become more alert to its significance for improved practice with the recognition that reliance on prepackaged techniques alone will not suffice, and that reflection is required to identify the most appropriate strategies for the problem at hand. It should no longer still be necessary to refute the shaky assumptions underlying pre-packaged formulations which purport to define expertly in pedestrian reductionistic terms the nature of competent performance for practitioners and learners.

Adult educators, along with other professionals, often suggest that competent performance is a matter of familiarizing oneself with theories and, then of putting these acquired theories into practice as relevant occasions arise. This does not seem to represent the case in any of the roles, professional or otherwise, we perform in our everyday world. 'Putting theory into practice', as the problem is often characterized, carries with it the presumption that a particular theoretical model can faithfully represent a particular order of reality. This deterministic notion, questioned even in the natural sciences, is not at all appropriate for the human sciences, which focus on the problem of human performance and provide much of the knowledge base for the helping professions. Though an understanding of theoretical constructions is important to any serious vocational endeavour, it is more efficacious to think in terms of engaging thought fully with theory and, then, putting ourselves into practice rather than putting theory into practice. In other words, serious engagement with theoretical models improves our potential as reflective practitioners, which in turn manifests itself in actual performance.

Efforts to identify clear-cut, comprehensive criteria for adult education practitioners vary from very detailed lists of the necessary competences for instructors, administrators, and counsellors to compilations of general commonsense advice about everyday practice. Examples of the latter are statements which advise practitioners to 'assess learning needs', 'develop effective relationships with adult learners', 'use relevant and effective instructional methods', and so on. However, the notion that the qualities of an adult educator can be reduced to a determined number of measurable competences encompassing various levels of behaviour, knowledge, and attitudes is troublesome. It emerges directly from an ethos of technical rationality and incorporates all the artificiality and shortcomings of a technicist orientation.

Vocational practice, incorporating careful reflection on its activities and aspiring to improved performance, will eschew the restrictive determinism of competency-based formats. These can only impair prospects for achieving and assessing competent performance from a basis of relevant reflection on practice in various adult education settings.

Rejection of a definitive list of competences, or set formulations, does not entail a careless approach to the achievement of high standards of performance. On the contrary, standards which support careful reflections on the requirements of the problem at hand can be set in each pedagogical context. The relevant dimensions of the task in hand will refer the thoughtful practitioner to appropriate standards. Dewey describes the process as follows:

"Thought runs ahead and foresees outcomes, and thereby avoids having to await the instruction of actual failure and disaster."

However, as the effectiveness, or otherwise, of the strategies employed is subsequently assessed, the question of whether or job appropriate standards have been met is directly addressed. As a matter of course the competent practitioner reflects on his or her own activity and its results.

Friends educating friends

The implication of all this is that adult education practice needs to be more concerned with the role of the educator, de-emphasizing a prevailing sharp and unremittting focus on the situation of the adult learner. A reorientation such as this will undoubtedly create unease, since it cuts across the grain formed by many authoritative texts on contemporary practice. The adult learner as a focus, or object, of professionalized strategies to render him or her self-directing has been at the core of adult education practice in recent years.

Deliberate initiatives emphasizing the paramount importance of careful reflection by adult educators on their own practice replaces a virtually obsessive preoccupation with learner-centred techniques. The learner, of course, should always matter in any pedagogical situation, but the kind of vocational commitment advanced here allows us to retrieve, in a rational way, the ethical notion of adult education as 'friends educating each other'. This describes a dialectical process where the teacher is also a learner and the learner, in learning, teaches the teacher. Thus the role of the practitioner becomes an even greater challenge. In remembering always to let the learner learn, the leader has to be open to being taught.

Although many adult educators would be readily inclined to acknowledge the notion of friends educating friends as a way to characterize their practice, very deliberate effort is required to retrieve its substantive ethical and democratic impulse. The categories which have emerged in recent times to define the adult learner together with their associated pedagogical techniques, create a distance between the learner and the adult educator, who becomes the expert. With the onset of professionally legitimized categorizations and techniques, caring for the adult learner in the convivial context of 'friends educating each other' is transformed into caring as an aspect of control. Terminology that rings of the corporate sector such as 'classroom management', 'contract negotiation', and 'human resource development' is deployed to

characterize the adult education endeavour. A critical task for vocation of adult education in contemporary society, then, is to uncouple itself from a tendency to transform an inclination for caring into a mechanism of control via an isolation of 'the adult learner' as an operational definition for categorization, and for the deployment of pedagogical technique.

A shift away from concentration on the adult learner as the target of categorization and transformation through technique to an emphasis on a clarification of the adult educator's role in the context of 'friends educating each other' opens out prospects for adult education as a vocation concerned with nurturing egalitarian values and commitments. In retrieving the idea of 'friends educating each other' as a prime characteristic of adult education practice, it is possible to sustain a concern for competence without distorting, through recourse to a technical rationality, the fragile dimension of a caring relationship.

A caring relationship within a pedagogical setting which is neither teacher nor learner centred does not mean that the educator should forgo responsibility by accepting in an uncritical way learners' opinions or views of what is relevant. An educational situation in which learners and teachers collaborate does not have to end up as a kind of buzz group where everything that is said goes unchallenged and is merely accepted as grist to the mill. The teacher remains responsible for organizing a pedagogical context where participants can collectively best fulfil their potential, where they all become subjects feglecting together on the process rather than the passive individualized objects of the process. Clearly the pedagogical situation envisaged here is altogether different from what H.C. Wilshire disdainfully refers to as 'the pecture sometimes drawn of teacher and students setting out in a condition of equal and happy ignorance to discover thins together'.

Theories of action perspectives

The perspective on adult education practice presented

here is informed by theories of action. In contrast to pedagogical orientation, including those advanced under the rubrics of self-directed learning and learning how to learn, adult education that entails reflection on action is obliged to incorporate into its pedagogy a prime concern for social and institutionalized structures that inhibit a realization of genuine autonomous learning. While concern for motivations and for relevant aspects of learners' and teachers' personal history are of considerable significance to a theory of action approach, it eschews psychological categorization and a preoccupation with framing the educational context in terms of individualized deficiencies. The practitioner, then, is required to reflect upon and take into account the everyday social structures and institutionalized obstacles which get in the way of a natural inclination of people to learn in accordance with self-directed interests. The reified constructs of much of contemporary professionalized practice, such as self-directed learning and learning how to learn, do acknowledge the symptoms whereby many adults have internalized constraints that block self appropriated learning. Unhappily, they become part of the problem by legitimizing a focus on strategies that evade serious engagement with the root causes of these constraints embedded in our social structures. The evasion inherent in much of modern adult education practice is characterized by rhetoric on coping skills and competences, and by an insistence on the merits of diagnostic testing to identify individual deficiencies.

The purposeful incorporation into practice of critical thinking about how we and other adults act, and are acted upon, in our everyday social world is essential but not sufficient. We might all, eventually, become highly relativistic critical thinkers, identifying and debating about various assumptions and world views. Admittedly, this is an improvement on the taken-for-granted consensus formation induced by naive faith in technique and the efficacy of coping skills. Unfortunately, it still leaves us with a need, overlooked by recent advocates of critical thinking skills in education, to identify ourselves with the commitments and contexts from

which we can make genuine democratically informed judgements for action in our everyday world. This is the kind of aspiration we found in the critical pedagogy of Paulo Freire, for example, until it was effectively sustained and overwhelmed in North America by the technical rationality guiding the overall text of modern adult education practice. As adult educators operating within this overall text, we can spark debate and 'trip the light fantastic' with talk about critical thinking skills and a nod or two in the direction of 'radical adult educators' without any of it making a tangible difference to our own practice.

Despite this prognosis, critical thinking guided by competence derived from relevant theory of action does hold out the prospect of adult education practice for social change. It is possible to envisage a pedagogical context, as we have learned from Habermas, where critical thinking makes problematic coercive and manipulative strategies, repressive manifestations of technical rationality, and the effective concealment of significant information. These are the conditions that can give critical thinking a genuinely transformative intent and allow for rational assessment of decisions emanating from critical discourse.

An understanding of significant theoretical analyses, such as those undertaken in the wide-ranging theory of communicative action which endeavours to provide reasons for genuinely democratic action, is integral to the role of a reflective practitioner. Serious commitment to adult education as vocation implies that its practitioners as intellectuals should be prepared to read and engage with theoretical texts as they begin to theorize their own practice. A vocational obligation to read thoughtful as well as how-to texts should not be undertaken with a facile expectation that increased practitioner effectiveness is to be achieved by merely putting early understood and readily explained theoretical constructs or models into practice. The vocational commitment for a reflective practitioner is more demanding. Theory requires pause for serious engagement if it is to enhance a reflective

process through which the adult educator continues to develop his or her competence in practice.

The Theory of Communicative Action, for example, can provide us with further insights into the reasoning and commitments of Paulo Freire's emancipatory pedagogy. Habermas's outstanding theoretical analyses help substantiate Freire's commitment to dialogic interaction, his questioning of the banking concept of education that describes typical didactic endeavours to transfer bits of information from teacher to learner, and his notion of pedagogical praxis whereby reflection and action inter-twine and inform each other in a dialectical process. Most significantly, perhaps, is the fact that we can look to Habermas's theory of action to understand why emancipation should be at the core of adult education practice.

Many adult educators readily associate themselves with generous sentiments that seek to commit adult education practice to the cause of emancipation—freedom from oppressive and coercive structures—but, if they are committed to reflect on their practice, it is helpful to look beyond Freire to discover why this should be the case. Reference to the 'Theory of Communicative Action' and, in particular, its account of the 'ideal speech situation' helps us in understanding why emancipation, freedom from coercive structures and systematic distortions, must be at the core of any adult education endeavour which aspires to a non-relativistic, genuinely democratic, endeavour for practice. It reveals, too, how dependence on the instrumental reasoning of a technical rationality distort the practical intent of any rational decision-making or learning process.

Although we have not even begun to explore the full potential of Jurgen Habermas's theoretical project as a primary source for reflection on adult education practice, the works of other important social theorists can assume importance in the development of reflective practice. It is not a matter of being familiar with all of them, a virtually impossible task for a full time academic, let alone a busy

practitioner, or even of being thoroughly conversant with the entire theoretical programme of some. Nor should their works be envisaged as mutually exclusive, requiring that we pick and choose among them, like commodities on a supermarket shelf, to suit different occasions and contexts. Careful reading of selected works from social theorists, or good interpreters, who address the problems of rational decision-making and meaningful action reveals that they reinforce each other in developing our capacity to reflect critically upon practice and, hence, our competence as practitioners.

Even a very lengthy selection of social theorists whose work has relevance for adult education as vocation would be found wanting. However, it is reasonable, at this time, to count among other powerful theorists whose analyses merit serious attention as sources to enhance reflection on adult education practice. Alfred Schutz, Michel Foucault, Antonio Gramsci, Rosa Luxemburg, and John Rawls. Interest in the writings of these theorists has grown significantly during the past decade or so. Although representing somewhat different areas and cultural-linguistic backgrounds, their theoretical concerns overlap and have consequences for the way we need to think about adult education practice in today's society.

A further cautionary note is called for before a brief account of the major theoretical concerns of these intellectuals is offered. Some radical educators in recent years have drawn on the works of Habermas and Gramsci, as well as those of Freire and Illich, treating them as blueprints for analysis and direct action within modern capitalist political economics. This kind of appropriation brings disillusionment. Accordingly there is risk that the works of these important thinkers will be shunted aside even from the margins of critical adult education practice rather than valued for the insights and inspiration to be derived from careful consideration of their theorizing and vocational commitment.

Alfred Schutz's phenomenological sociology, in particular his Theory of Relevance, describes the basis for an analysis of the problem of competent performance, revealing

to us, at the same time, the artificiality and inadequacies of reductionistic approaches exemplified by pre-packaged competency based learning formats. In addition, we can look to Schutz's analysis of the structures and meanings of relevant actions in the everyday world, especially the concept of thematic relevance, to provide a theoretical justification for the problem posing orientation of Freire's pedagogy through which themes that have critical meaning in the everyday lives of adult learners are identified by them rather than being formulated for them. Schutz's publications, especially his collected papers, provide outstanding examples of how phenomenological investigations can give us insights into our experiences as learners and teachers, paving the way for significant new directions in adult learning and development theory.

The various ways power influences the nature, ownership, and dissemination of knowledge are a major concern of Michael Foucault's work. Engagement with his analysis of the interconnectedness of power and knowledge helps us understand how educational encounters are shaped by their incorporation into an overall system of control and surveillance. While this dimension of control and surveillance is more readily apparent in the education of particular groups of the adult population like prison inmates, the adult educator who reflects on her or his practice will begin to comprehend more vividly how it pervades most other formal education contexts. Foucault's analysis brings us face to face with coercive and manipulative structures which interfere with prospects for a pedagogy along the lines envisaged by Jurgen Habermas's Theory of Communicative Action. It can serve also to extend reflection on the kind of pedagogical concerns that emerge from Schutz's phenomenologically based theory of action. Not only should adult educators be concerned about the artificiality of learning formats that are reduced, in laundry list fashion, to a series of simplistic statements on skills, they also need to consider the extent to which these standardized formats lend themselves to the interests of management concerned as much with problems of control as

with educational development. Efficient standardization that is the hallmark of reductionistic curriculum formats and of their potential to keep adult learners busy, if not very meaningfully busy, are a boon to education's bureaucrats, who place a high priority on centralization and control.

The research programme of Foucault, and of other theorists who address the problem of power and knowledge construction, obliges committed adult educators to reflect upon whose interests are really being served by their practice. His notion of the specific intellectual, and the kind of active political commitment he intends it to convey, is very instructive for a vocation of adult education. Foucault questions the traditional view of intellectuals as authoritative spokesmen for universal themes such as truth and justice, and takes issue with a Marxian perspective in which 'the intellectual is thus taken as the clear individual figure of a universality whose obscure, collective form is embodied in the proletariat. Instead, a specific intellectual identifies the particular contexts and issues which are the locations for potentially effective resistance to coercive practices. With regard to prospects for social change, specific intellectuals do not presume to speak on behalf of the oppressed. Their proper role, when they share Foucault's critical perspective, is to reveal and challenge the actual institutionalized structures of oppression.

Antonio Gramsci's theoretical writings have rendered a comprehensive account of hegemony as a critical concept. It refers us to the prevailing state of affairs in which the predominant ideology, representing largely the interests of the most powerful groups within civil society and the economic-corporate sector, influences significantly the way most of us experience the world and conduct ourselves in most spheres of everyday life. The predominant ideology from this perspective is so pervasive that we internalize, in a taken for granted way, many of its imperatives on how we should experience the world. It tends to shape the very consciousness of our society. Particular significance attaches

to the educational sphere where hegemonic interests can be advanced and sustained. The significance of ideological hegemony under both corporate capitalism and state capitalism has resided in its capacity to suppress, through one means or another, widespread awareness of its contradictions.

Gramsci's use of the concept of hegemony, however, does not leave us without the prospects for realizing social change through well thought out counter-hegemonic strategies. His writings identify education as a context for rational resistance to coercive aspects of prevailing hegemonic interests, for which it is a prime location. In positing also a notion of the 'organic intellectual', who identifies unequivocally the social groupings in whose interests he or she will be committed, Gramsci has left thoughtful adult educators with a vocational challenge and a keen sense of the contradictions inherent in everyday practice. His work poses starkly the kind of questions that can discomfort the reflective adult educator. Whose interests are we most effectively serving? Whose interests should we serve? Whose interests shall we serve? As with Foucault, Gramsci's distinction between traditional intellectuals and those who recognize that they are not neutral and above the fray is significant for a vocation of adult education. It reminds us that adult educators, through their pedagogical meditation, have an intellectual role. Though he argued that 'every teacher is always a pupil and every pupil a teacher', Gramsci differs from Foucault in that he envisages organic intellectuals as leaders of popular education initiatives:

A human mass does not 'distinguish' itself, does not become independent in its own right without, in the widest sense, organizing itself and there is no organization without intellectuals, that is without organizers and leaders.

However, adult educators can, without inconsistency, draw on the work of both these outstanding intellectuals, since the 'human mass' identified by Gramsci is increasingly subject to the structures of surveillance and control that Foucault has so thoroughly described.

The renowned Rosa Luxemburg—committed revolutionary, social theorist, and adult educator—was always clear-cut about whose interests she should serve. Luxemburg was very demanding of her working class adult students and demonstrated the kind of leadership and organizational proficiency that Gramsci, years later, attached to his notion of organic intellectualism. At the same time Luxemburg maintained that significant intellectualism. At the same time Luxemburg maintain that significant social change towards genuine participatory democracy must emerge from spontaneously democratically motivated popular movements rather than from elite intellectual cadres acting on behalf of the people. Her classes in economics and history were conducted as dialectical discourse of a kind that is now pre-empted by individualizing pedagogical techniques. For Luxemburg there was no need to talk in terms of teaching critical thinking skills. She believed that careful self-criticism was integral to self-education and that the development of their thinking processes was up to the students themselves.

Rosa Luxemburg was wedded to the idea that her task was to teach while learning. Thus, while immeasurably advancing her own competence, she avoided burdening herself with the limited perspective of the specialist. Two of her major works, *Introduction to Economics* and *The Accumulation of Capital*, came out of her teaching activities. Above all, though, Luxemburg's vocational commitment exemplifies caring for others, consistency, and immense personal courage.

Besides teaching adult education classes, Luxemburg's pedagogical mission was the writing of brilliant polemics which have their grounding in her important theoretical work.

An reflection on the role of adult education as vocation would be enriched by the arguments advanced by John Rawls in *A Theory of Human Justice*. Though seemingly less radical than Gramsci or Luxemburg, his work marks a significant endeavour to describe a notion of justice that does not leave

the individual subservient to a technical rationality serving institutionalized legal and economic interests. At the core of his theory is the principle that no individual should be a means to the ends of predominant societal interests. A just society seeks to maximize, through ethical and practical means, the advantage of its least advantaged members. Thus, although its concern is with individual agency rather than with the prospects of collective experience, Rawls's work is distinctly humanistic.

Rawls is more readable, perhaps deceptively so, than most theorists and his prose is relatively free of the kind of phraseology that may make the writings of Habermas, Foucault, Gramsci, and Luxemburg appear too politically laden for many American adult educators in particular. It is worth emphasizing at this juncture, though, that the analyses of these theorists, and others who write in similar vein, constitute a comprehensive critique of the effects of a technical rationality and its attendant mechanism of control that prevail in both the corporate, 'free enterprise', capitalistic economies of the West and the state capitalism that has steered 'Soviet economies'.

Many readable and thoughtful interpretations of important social theoretical writings that can inform our reflections on practice are now accessible. The significance of both original writings and subsequent careful interpretations lies in their potential for helping to heighten the level of critical discourse about adult education practice, not in any tidy solutions we may hope to glean from them. By the same token, thoughtful practitioners will not be inclined to take the theorists on faith. The contribution of social theories of action to an on-going conversation about adult education as vocation is enhanced by subjecting their assumptions and findings to critical assessment. Ultimately, however, the nature and quality of practice emerging from a vocation of adult education depend upon our own capacity to reflect critically upon what we are and what we do as adult educators.

Making music together

Theory of action perspectives, then, are helpful to reflection on the kind of practice which exemplifies a sense of vocation. They point us to prospects for the realization of a more self-assured adult education practice while retrieving its ethical, convivial, vision of 'friends educating one another': one in which 'every teacher is always a pupil and every pupil a teacher'. This renewed prospect for ethical, rationally conceived, adult education practice as vocation is juxtaposed against pedagogical strategies derived from an ideology of technique that focuses on correcting learner deficiencies rather than upon prevailing institutionalized structures that get in the way of self-induced learning and which create many of the learning disabilities in contemporary society.

In breaking away from the parametres of the prevalent overall 'text' which more or less describes the arena for contemporary adult education practice, it is not necessary to start from scratch. There are many adult education initiatives that already exemplify, through the nature of their commitment, the kind of orientation outlined for adult education as vocation. Among adult educators who work in difficult institutional circumstances, these are those who already conceptualize their roles along lines described here, confronting day-to-day contradictions in thoughtful, realistic, terms. Their pedagogical situations provide useful examples of what is needed to realize a committed, reflective practice of adult education in contemporary society and should be affirmed as legitimate contexts from which to draw analysis and inspiration. The notion of 'friends educating one another' forged in such contexts refers us to I-thou relationships where a sense of personal responsibility for others renders redundant bureaucratic demands for mechanistic, distancing, accountability measures. So we are not at all envisaging a casual, haphazard, pedagogical process. Freire's pedagogy fosters I-thou relationships, but recognizes that the educator has a duty to work on creating egalitarian situations:

At the point of encounter there are neither utter ignoramuses nor perfect sages; there are only men who are attempting, together, to learn more than now know.

This does not call for self effacement where teacher competence and leadership qualities are deliberately downplayed at the expense of overall performance. The adult educator's performance, in this regard, can be likened to that of the jazz virtuoso who creates situations which enable the other band members to extend their own capacities. Making music together provides an apt metaphor for the kind of pedagogical practices that constitute a vocation of adult education. For Alfred Schutz the musical experience invokes 'the mutual turning-in relationship upon which alone all communication is founded'. Through this kind of relationship 'the' "I" and "Thou" are experienced by both participants as a "we" in vivid presence'. Myles Horton, founder of the internationally renowned Highlander Folk School, would agree, though, no doubt, in more down-to-earth terms. For over half a century making music together has been a vital feature in Highlander Folk School's continuing endeavour, through adult education, to realize a more just social order:

"Music plays a critically important part in this process. Seldom do people gather at Highlander without someone around to make music. People learn about unity by acting in unison. They learn about democracy by acting democratically."

And the synthesis of person, group, time, place, purpose, and problem that characterizes collective learning at Highlander has required a very high order of vocational commitment. As with Paulo Freire and Richard Tawney, it is possible to locate Horton's sense of commitment to adult education as a vocation for the realization of a more just society within the Christian tradition.

The intent is to examine prospects for unravelling the constraints of the predominant perspective that largely

commits modern adult education practice to an ideology of technique, we are still mindful that actual practice on a day-to-day basis has to deal with the way things are, not with what we would wish them to be.

Adult Life-world Concerns

The Constituents of the life-world which manifest themselves in the way human beings relate to each other, and to the natural environment. Habermas, for example, talks about the destruction of these life-world constituents, and hence the disintegration of locations which they sustain, in terms of 'realms of experience and forms of life that are threatened with being eroded, undermined, and washed away by the dynamics of economic growth and bureaucratization'. Examples of this tendency, characterized by Ivan Illich as 'erosion of the commons', have been addressed in previous chapters where prospects of engaging with the attendant problems in the context of contemporary adult education were raised.

Mostly, the adult's life-world is made up of routine day-to-day activities that are accomplished, effectively of otherwise, in a taken-for-granted manner. Although we expect to encounter difficulties from time to time, even the occasional serious set-back, these activities usually take place within a reasonably familiar and well-defined context. Therefore, in a commonsensical way, we are inclined to take them for granted rather than posing them as problematic. This essentially pragmatic mental stance that accompanies our everyday adult activities is described by Alfred Schutz as the natural attitude in which we suspend all scepticism during the pursuit of our daily affairs about the immediate events, environmental

effects, and societal contexts in which we are involved. Unfortunately, this necessary pragmatic stance of the natural attitude leaves us increasingly vulnerable to the harmful consequences of decisions steered predominantly by technical rationality and of ill-conceived technological innovation. It becomes more and more an imperative for adults to acquire the capacity to put aside the natural attitude of their everyday life-world and adopt a sceptical approach towards taken-for-granted innovations 'necessary for progress', supposedly 'acceptable' impositions as the price of progress, and seemingly authoritative sources of information that describe for us the landscapes of contemporary social reality. Clearly, if the concerns of this book are taken seriously, a critical capacity of this kind cannot be engendered on a wide scale by the deployment of courses on critical thinking skills and essays on how to think critically. Such instrumentalization of the problem, in a taken-for-granted manner, defeats its purpose. A capacity to replace the mental stance of the natural attitude in relevant situations that are presently taken for granted requires an unrelenting pedagogical effort. Only through a commitment to embracing a continuing critical reflection on practice and a determination to incorporate critical thought (not merely debating pros and cons) within all education settings can adult educators help counter the debilitating consequences to our life-world of an ideology of technique reinforced by its taken-for-granted acceptance.

This issue of professionalization explored in previous chapters shows the way technical rationality supports a widely taken-for-granted dependence on experts, leading to a replacement of practical activities that formerly belonged to the everyday life-world of reasonably competent, attentive adults. Through legalistic means, professionalization has resulted in the transference to experts of many vital activities that were, and can still be, adequately performed within the domain of the everyday life-world. The analysis of Jürgen Habermas is again instructive in this regard:

The bureaucratization and legal regulation of private and

informal spheres of action: and above all the political-administrative incorporation of school, family, education, and cultural reproduction in general-these developments make us aware of a new problem zone that has arisen on the borders separating system and life-world.

Rather than questioning and offering informed resistance to a trend that has led to a significant de-skilling within life-world contexts, the modern practice of adult education has lent its weight to the world of the specialists the system-world.

To the simplistically offered objection that one would not go to a non-specialist for surgery, antibiotics, or advice on litigation, there is an obvious response that the retrieval and development of competence in personal care home economics, and community based services would considerably, reduce dependence on surgeons, pharmaists, lawyers, and other specialists.

Apart from engendering critical discourse among professionals about professionalization and identifying problems induced through an unexamined technical rationality that undermines vital aspects of our everyday life-world adult educators can light upon locations and concerns where a thoughtful pedagogy would help sustain life-world interests. Neighbourhood issues, the relationship between adults and children, concerns about health, ecology, concerns about military installation - these are all cooled out by the taken-for-granted encroachment of a technical rationality that can still be made problematic through an informed, critical pedagogy. Nor need pedagogical involvement with these concerns be confined to informal community-based contexts. Schools, colleges, prisons, the work-places-most formal institutional settings, in fact - are locations where practical critique can be undertaken through a pedagogy favouring the enhancement of communicative competence over educational strategies merely intended to alleviate concerns of the non-experts. Clearly, there are difficulties in practising such a pedagogy within the very institutions from which threats to life-world values emanate, but the stresses and crises of

modern institution always provide opportunities for alternative kinds discourse where management does not shortsightedly favour a degree of authoritarianism that becomes dysfunctional to its own interests. It is important for adult educators to foster alternative discourses within large scale institutionalized settings because the preservation of what is vital in our everyday life-world depends upon the fostering of its vital, communicative, constituents within the system-world. The task is to humanize the latter so that it enhances rather than depletes the former. Adult educators, then, have a significant role to play in taking a piece of the 'commons', so graphically described by Ivan Illich, into contemporary society's industrialized, commercialized, and bureaucratized organizations, although Illich himself would maintain that we should look exclusively to alternative community-based arrangements for the preservation of traditional values. Despite the relevance for us of Illich's notions of the 'commons' and 'vernacular values', a harder, less romanticized, pedagogy in line with the theoretical and practical commitments of Gramsci and Hsberman holds out more promise of social transformation, since it extends to the institutions of the system-world from which we cannot entirely escape. Unlike Illich these two theorists and activists recognize that industrial and bureaucratic organizations, though steered by an ideology of technique, provide significant locations for retrieving genuinely democratic communicative value.

At the same time, the predicament of the family in contemporary society presents a challenge for adult education to create learning situations, transcending class, socio-economic and ethnic boundaries, that explore how men and women can live together and, more importantly, raise children in caring relationships. The typical family unit headed by a patriarchal male as sole bread-winner becomes increasingly less typical while it is idealized by state interests which undermine traditional family autonomy through reformist interventions. Even those middle-class families which seems to approach the ideal are subject to external influ-

ences and intrusions that serve to erode traditional patriarchal and domestic functions, add to the emotional turmoil of growing children, and bring further ambiguity to the roles of wife and mother. Clearly, the retention of an idealized typical family unit from which all other domestic arrangements for living together are defined is now extremely problematic. A concerned pedagogy can scarcely escape from the critical everyday life-world considerations touched upon here. They are situated within what Habermass describes as 'the new problem zone'. Much more research is required to reveal the full extent of problems that suggest a diminishing ability to inculcate future generations into a community ethic and value-oriented action that will sustain it. Adult education has a role to play in examining, and offering, options to nihilistic tendencies that cannot now be fully countered by the disappearing traditional family unit. A useful start in a hopeful direction could be made by incorporating a critical dimension to, and completely re-conceptualizing, the subject that takes the family and domestic arrangements as its focus-home economics.

Government and corporate interests are now having to confront increasing alarm about the destruction of valuable environmental non-renewable resources. The extent of the crisis presses for relevant involvement of adult educators within the environmental movement which is gaining momentum on a global scale as governmental and corporate efforts to alleviate public concerns without dealing with their validity are being systematically challenged. Apart from bringing their organizational capacities to bear through direct participation in the movement and through dissemination of information to critically engage complacent, but methodically presented, corporate public relations reports, adult educators have a significant role to play in introducing ecological themes into regular educational programming and classroom teaching. Similar opportunities exist for the development of a more thoughtful pedagogical involvement with anti-nuclear and peace movements, with alternative community-based, non profit, initiatives such as food co-ops, credit unions, co-

operative housing and alternative technology, and with movements committed to the preservation of cultural, linguistic, and regional identities. These alternative spheres of resistance to both corporate and state capitalism make problematic areas of concern that are otherwise overlooked by an overly technocratic orientation to progress. In view of their healthy practical concern for the well-being of the species and the survival of our planet over capitalistic or state-determined politico-economic imperatives, these spheres of resistance are eminently progressive. It is to be hoped that in subsequent phases of their development, and this is where adult education can surely help, they will place more emphasis on transforming bureaucratized and governmental structures into a means for supporting and enhancing precious dimensions of the life-world exemplified by genuinely democratic interactions. People create the structures of the system-world; people can bring them in hand.

Adult educators in many parts of the world already incorporate the kind of commitments outlined above into our pedagogical practice. The International Council for Adult Education, in particular, publishes accounts of initiatives consistent with a transformative pedagogy sensitive to adult life-world concerns and the protection of the commons. Insights and imaginative contemporary strategies directly relevant to a transformative practice of adult education can be derived from essays on community development initiatives, of then 'grass-roots' genre rather than 'top-down' approaches, and from the activities of popular movements which are not yet overly attentive to all the significant dimensions of their adult educational function. There is, then, a discernible and active arena in which careful work is undertaken on behalf of collective and public concerns rather than those of corporate and individualistic interests, and where transformative pedagogy already manifests itself. No adult educator needs to be talking about transformative practice of critical theory in isolation from some relevant location where the discourse can be put to the test.

An optimistic perspective, supported by an enlightened pedagogy envisages the life-world and system-world acting upon each other to mutual benefit. Initiatives to protect life-world interests can add greater democratic communicative capacity to the system-world of corporate and bureaucratic decision-making, which thus becomes more readily inclined to act rationally in conserving the 'commons' of Illich's metaphor. But the educational effort is necessary. There are still many influential people who find no problem at all with the notion of constructing mines and corporate enterprises in wilderness parks which, in effect have already been legally designated as 'commons'. Some may even resort to violence in asserting a right to savage the 'commons'. While this chapter was being written, the Manchester Guardian Weekly reported that Francisco Mendes, internationally known defender of the Amazon rain forests and aboriginal rights, had been murdered. The man who surrendered himself to the police is said to have been a rancher opposed to the struggle to the rain forest. Francisco Mendes, among others, has established how wasteful and destructive ranching is of rain forest resources and the extent of involvement in forest devastation on the part of large corporations such as Xerox, Georgia Pacific, the Dutch company Bruynzeel and the Japanese Toyomenka. As a result of his educational activities, the World Bank and the Inter-American Regional Bank were persuaded in 1988 to withhold financing from the region 'until serious environmental protection measures had been taken'. But the stakes are high.

Implicit in the alternative orientations described in the previous section is a strong affinity with moves towards decentralization and against further centralization. It is in this regard that adult education can well afford to examine its own practice, where prevailing trends to centralize the curriculum in line with a management perspective calls for continuing scepticism. In addition to advancing critiques concerning ethical and practical claims which accompany the deployment of centralized curriculum designs, adult educators should make every reasonable effort to be meaningfully involved in curriculum initiatives. Meaningful involvement would

require resistance to suggestions that a mere endorsement of already determined criteria and frameworks is sufficient. Failure to realize meaningful participation does not necessarily incapacitate adult educators working in formal institutional settings, but a disinclination to struggle for such involvement and to question top-down centralizing initiatives scarcely qualifies them to talk about teaching critical thinking to their students.

While the trend towards centralized administration and design of the adult education curriculum has encountered critical assessment, other centralizing measures within adult education agencies seem to have been accepted in a taken-for-granted manner. Sometimes, they are readily embraced by those who ought to be asking the questions. In any event, if the widely espoused notion of 'empowering adult learners' through the teaching of critical thinking is to be taken seriously, adult educators must attend to the way that top-down initiatives within their own organizations effectively curtail prospects for genuine democratic discourse and for the relevant participation in decision-making that this implies. A careful analysis of the context and the motivations from which these initiatives emerge usually reveals some possibility of less formalized appropriate communicative discourse that sustains countervailing strategies. The latter, viewed individually and in the short run, may not seem immediately significant, but they do shape the course of events even in quite authoritarian institutions where adult educators work such as prisons, the military, hospitals, and public schools. Alternative strategies that do arise as part of an informal communicative structure cannot be totally eliminated or completely steered through a heavily centralized administrative format unless the right to question and resist, even in subtle forms, is surrendered.

Some initiatives towards centralization and management of resources do, of course, make sense. This is the case with distance education programmes created to meet the needs of people who do not have ready access to formal learning

opportunities in line with their educational needs. Here too, through, careful involvement is required of the part of committed adult educators to ensure that enthusiasm for the available technology and a capability to neatly pre-package learning materials at central locations do not supersede the need for locally oriented educational support. Without the latter, which usually means provision for some face-to-face interaction between educator and students, distance education can become a vehicle for a kind of cultural invasion in which communities are envisaged as 'reception sites' for the technology and methodological approaches of distance education specialists. This is most evident, for example, where distance education courses emanate from a central location within the dominant culture for delivery to aboriginal people in remote areas. More critical analysis is needed to assess the homogenizing effects of distance education and its potential as a delivery system to serve governmental and large scale corporate interests rather than those of people in their community settings. In the meantime, adult educators should be on guard to ensure that distance education is not shaped largely by technocrats and those with a bent for implementing overarching curriculum design.

Issue has to be taken with those who claim that the price of genuine participatory democracy in our institutional arrangements is continuing inefficiency. This book is not a plea for the relegation of a concern for efficiency, for the complete abandonment of technical rationality, or for a bizarre, romanticized stance against technological development of any kind. A technical rationality, tempered by careful consideration, practical, ethical, and aesthetic in line with Habermas's notion of a superior rationality embedded in genuinely democratic communicative action, is conducive to the sustenance of vital life-world interactions and to the protection of the 'commons'. As an integral aspect of a more wholesome communicative action, is conducive to the sustenance of vital life-world interactions and to the communicative rationality, which it seeks to support rather than determine, technical rationality becomes most relevant in

the development of more benign technologies that serve, first and foremost, democratically conceived community needs rather than those determined predominantly by state and corporate interests. Contemporary adult education practice can play a significant role in helping the realization of this prospect, but a determined effort is required to break with the ideology of technique which shapes its present course. The question is whether adult educators are prepared to master the insight, imagination, and commitment needed for the kind of critique of their own practice implied in this quotation:

There are increasing numbers of concerned persons today who seek to mitigate the fissiparous, socially fragmenting effects of technical reason by calling for a renewed devotion to 'common social values'. But the calls for common social values are almost never accompanied with the demand for a critical questioning of the dominance of technical reason in modern society as the only recognized source of knowledge.

Such a demand can elicit an authentic pedagogical response only from a vocation of adult education that is committed more to the life-world concerns described in this chapter than to a self absorbed preoccupation with professionalization and to the deployment of technocratic curricula based on an individualizing 'adult learner characteristics' rationale.

Interpersonal Relationship in the Facilitation of Learning

We wish to begin this chapter with a statement that may seem surprising to some and perhaps offensive to others. It is simply this: 'Teaching, in our estimation, is a vastly over-rated function.'

Having made such a statement, we scurry to the dictionary to see if we really mean what we say. Teaching means 'to instruct'. Personally, we are not much interested in instructing another in what she should know or think, though others seem to love to do this. 'To impart knowledge or skill'. Our reaction is, why not be more efficient, using a book or programmed learning? 'To make to know'. Here my hackles rise. We have no wish to make anyone know something. 'To show, guide, direct'. As we see it, too many people have been shown, guided, directed. So we come to the conclusion that we do mean what we said. 'Teaching is a relatively unimportant and vastly overvalued activity.'

But there is more in my attitude than this. We have a negative reaction to teaching. Why? we think it is because it raises all the wrong questions. As soon as we focus on teaching, the question arises, what shall we teach? What, from our superior vantage point, does the other person need to know? We wonder if, in this modern world, we are justified in the presumption that we are wise about the future and the

young are foolish. Are we really sure as to what they should know? Then there is the ridiculous question of coverage. What shall the course cover? This notion of coverage is based on the assumption that what is taught is what is learned; what is presented is what is assimilated. We know of no assumption so obviously untrue. One does not need research to provide evidence that this is false. One needs only to talk with a few students.

But we ask ourself, 'Are we so prejudiced against teaching that we find no situation in which it is worthwhile?' we immediately think of my experiences in Australia long ago. Became much interested in the Australian Aborigines. Here is a group that for more than 20,000 years has managed to live and exist in a desolate environment in which modern man would perish within a few days. The secret of the Aboriginal's survival has been teaching. He has passed on to the young every shred of knowledge about how to find water, about how to track game, about how to kill the kangaroo, about how to find his way through the trackless desert. Such knowledge is conveyed to the young as being the way to behave, and any innovation is frowned upon. It is clear that teaching has provided him the way to survive in a hostile and relatively unchanging environment.

Now I am closer to the nub of the question that excites me. Teaching and the imparting of knowledge makes sense in an unchanging environment. This is why it has been an unquestioned function for centuries. But if there is one truth about modern man, it is that he lives in an environment that is continually changing. The one thing I can be sure of is that the physics that is taught to the present-day student will be outdated in a decade. The teaching in psychology will certainly be out of date in twenty years. The so-called 'facts of history' depend very largely upon the current mood and temper of the culture. Chemistry, biology, genetics, and sociology are in such flux that a firm statement made today will almost certainly be modified by the time the student gets around to using the knowledge.

We are, in my view, faced with an entirely new situation in education where the goal of education, if we are to survive, is the facilitation of change and learning. The only man who is educated is the man who has learned how to learn; the man who has learned how to adapt and change; the man who has realized that no knowledge is secure, that only the process of seeking knowledge gives a basis for security. Changingness, a reliance on process rather than upon static knowledge, is the only thing that makes any sense as a goal for education in the modern world.

So now with some relief I turn to an activity, a purpose, which really warms me—the facilitation of learning. When I have been able to transform a group—and here I mean all the members of a group, myself almost beyond belief. To free curiosity; to permit individuals to go charging off in new directions dictated by their own interests; to unleash the sense of inquiry; to open everything to questioning and exploration; to recognize that everything is in process of change—here is an experience I can never forget. I cannot always achieve it in groups with which I am associated, but when it is partially or largely achieved, then it becomes a never-to-be forgotten group experience. Out of such a context arise true students, real learners, creative scientists and scholars, and practitioners, the kind of individuals who can live in a delicate but ever-changing balance between what is presently known and the flowing, moving, altering problems and facts of the future.

But do we know how to achieve this new goal in education or is it a will-o'-the-wisp that sometimes occurs, sometimes fails to occur, and thus offers little real hope? My answer is that we possess a very considerable knowledge of the conditions that encourage self-initiated, significant, experiential, 'gut-level' learning by the whole person. We do not frequently see these conditions put into effect because they mean a real revolution in our approach to education and revolutions are not for the timid. But we do find examples of this revolution in action. We know—and I will briefly mention

some of the evidence — that the initiation of such learning rests not upon the teaching skills of the leader, not upon scholarly knowledge of the field, not upon curricular planning not upon use of audiovisual aids, not upon the programmed learning used, not upon lectures and presentations, not upon an abundance of books, though each of these might at one time or another be utilized as an important resource. No, the facilitation of significant learning rests upon certain attitudinal qualities that exist in the personal relationship between the facilitator and the learner.

We came upon such findings first in the field of psychotherapy, but now there is evidence that shows these findings apply in the classroom as well. We find it easier to think that the intensive relationship between therapist and client might possess these qualities, but we are also finding that they may exist in the countless interpersonal interactions between the teacher and pupils.

Qualities that facilitate learning

What are these qualities, these attitudes, that facilitate learning? Let me describe them very briefly, drawing illustrations from the teaching field.

Realness in the facilitator of learning

Perhaps the most basic of the essential attitudes is realness or genuineness. When the facilitator is a real person, being what she is entering into a relationship with the learner without presenting a front or a facade, she is much more likely to be effective. This means that the feelings that she is experiencing are available to her, available to her awareness, that she is able to live these feelings, be them, and able to communicate them if appropriate. It means that she comes into a direct personal encounter with the learner, meeting her on a person-to-person basis. It means that she is being herself, not denying herself.

Seen from this point of view it is suggested that the teacher can be a real person in her relationship with her

students. She can be enthusiastic, can be bored, can be interested in students, can be angry, can be sensitive and sympathetic. Because she accepts these feelings as her own, she has no need to impose them on her students. She can like or dislike a student product without implying that it is objectively good or bad or that the student is good or bad. She is simply expressing a feeling for the product, a feeling that exists within herself. Thus, she is a person to her students, not a faceless embodiment of curricular requirement nor a sterile tube through which knowledge is passed from one generation to the next.

It is obvious that this attitudinal set, found to be effective in psycho-therapy, is sharply in contrast with the tendency of most teachers to show themselves to their pupils simply as roles. It is quite customary for teachers rather consciously to put on the mask, the role, the facade of being a teacher and to wear this facade all day, removing it only when they have left the school at night. But not all teachers are like this. Takd Barbara Shiel She gave her pupils a great deal of responsible freedom, and I will mention some of the reactions of her students later. But here is an example of the way she shared herself with her pupils—not just sharing feelings of sweetness and light, but anger and frustration. She had made art materials freely available, and students often used these in creative ways, but the room frequently looked like a picture of chaos. Here is her report of her feelings and what she did with them.

I find it maddening to live with the mess—with a capital M! No one seems to care except me. Finally, one day I told the children... that I am a neat orderly person by nature and that the mess was driving me to distraction. Did they have a solution? It was suggested there were some volunteers who could clean up... I said it didn't seem fair to me to have the same people clean up all the time for others - but it would solve it for me. 'Well, some people like to clean,' they replied. So that's the way it is.

I hope this example puts some lively meaning into the

phrases I used earlier, that the facilitator 'is able to live these feelings, be them, and able to communicate them if appropriate'. I have chosen an example of negative feelings because I think it is more difficult for most of us to visualize what this would mean. In this instance, Miss Shiel is taking the risk of being transparent in her angry frustrations about the mess. And what happens? The same thing that, in my experience, nearly always happens. These young people accept and respect her feelings, take them into account, and work out a novel solution that none of us, I believe, would have suggested. Miss Shiel wisely comments, 'I used to get upset and feel guilty when I became angry. I finally realized the children could accept my feelings too. And it is important for them to know when they've "pushed me". I have my limits, too.'

Just to show that positive feelings, when they are real, are equally effective, let me quote briefly a college student's reaction, in a different course:

"Your sense of humour in the class was cheering: we all felt relaxed because you showed us your human self, not a mechanical teacher image. I feel as if I have more understanding and faith in my teachers now. I feel closer to the students too."

Another student in the same course:

"It wasn't as if there was a teacher in the class, but rather someone whom we could trust and identify as a 'sharer.' You were so perceptive and sensitive to our thoughts, and this made it all the more 'authentic' for me. It was an 'authentic' experience, not just a class."

Prizing, acceptance, trust

There is another attitude that stands out in those who are successful in facilitating learning. I have observed this attitude. I have experienced it. Yet, it is hard to know what term to put to it so I shall use several. I think of it as prizing the learner, prizing her feelings, her opinions, her person. It is a

caring for the learner, but a nonpossessive caring. It is an acceptance of this other individual as a separate person, having worth in her own right. It is a basic trust—a belief that this other person is somehow fundamentally trustworthy. Whether we call it prizing, acceptance, trust, or by some other term, it shows up a variety of observable ways. The facilitator who has a considerable degree of this attitude can be fully acceptant of the fear and hesitation of the student as she approaches a new problem as well as acceptant of the pupil's satisfaction in achievement. Such a teacher can accept the student's occasional apathy, her erratic desires to explore byroads of knowledge, as well as her disciplined efforts to achieve major goals. She can accept personal feelings that both disturb and promote learning — rivalry with a sibling, hatred of authority, concern about personal adequacy. What we are describing is a prizing of the learner as an imperfect human being with many feelings, many potentialities. The facilitator's prizing or acceptance of the learner is an operational expression of her essential confidence and trust in the capacity of the human organism.

I would like to give some examples of this attitude from the classroom situation. Here any teacher statements would be properly suspect since many of us would like to feel we hold such attitudes and might have a biased perception of our qualities. But let me indicate how this attitude of prizing, of accepting, of trusting appears to the student who is fortunate enough to experience it.

Here is a statement from a college student in a class with Dr. Morey Appel.

Important, mature, and capable of doing things on my own. I want to think for myself and this need cannot be accomplished through text books and lectures alone, but through living. I think you see me as a person with real feelings and needs, an individual. What I say and do are significant expressions from me, and you recognize this.

The facilitator who cares, who prizes, who trusts the

learner creates a climate for learning so different from the ordinary classroom that any resemblance is purely coincidental.

Empathic understanding

A further element that establishes a climate for self-initiated, experiential learning is empathic understanding. When the teacher has the ability to understand the student's reactions from the inside, has a sensitive awareness of the way the process of education and learning seems to the student, then again the likelihood of significant learning is increased.

This kind of understanding is sharply different from the usual evaluative understanding, which follows the pattern of 'I understand what is wrong with you.' When there is a sensitive empathy, however, the reaction in the learner follows something of this pattern, 'At last someone understands how it feels and seems to be me without wanting to analyse me or judge me. Now I can blossom and grow and learn.' This attitude of standing in the other's shoes, of viewing the world through the student's eyes, is almost unheard of in the classroom. One could listen to thousands of ordinary classroom interactions without coming across one instance of clearly communicated, sensitively accurate, emphatic understanding. But it has a tremendously releasing effect when it occurs.

What are the bases of facilitative attitudes?

A 'puzzlement'

It is natural that we do not always have attitudes I have been describing. Some teachers raise the question, 'But what if I am not feeling empathic, do not, at this moment, prize or accept or like my students. What then?' My response is that realness is the most important of the attitudes mentioned, and it is not accidental that this attitude was described first. So if one has little understanding of the student's inner world and a dislike for the students or their behaviour, it is almost

certainly more constructive to be real than to be pseudo-empathic or to put on a facade of caring.

But this is not nearly as simple as it sounds. To be genuine, or honest, or congruent, or real means to be this way about oneself. I cannot be real about another because I do not know what is real for him. I can only tell, if I wish to be truly honest, what is going on in me.

Let me take an example. Early in this chapter I reported Miss Shiel's feelings about the 'mess' created by the art work. Essentially she said, 'I find it maddening to live with the mess! I'm neat and orderly and it is driving me to distraction.' But suppose her feelings had come out some what differently in the disguised way that is much more common in classrooms at all levels. She might have said, 'You are the messiest children I've ever seen! You don't care about tidiness or cleanliness. You are just terrible!' This is most definitely not an example of genuineness or realness, in the sense in which I am using these terms. There is profound distinction between the two statements, which I should like to spell out.

In the second statement she is telling nothing of herself, sharing none of her feelings. Doubtless the children will sense that she is angry, but because children are perceptively shrewd, they may be uncertain as to whether she is angry at them or has just come from an argument with the principal. It has none of the honesty of the first statement in which she tells of her own upsetness, of her own feeling of being driven to distraction.

Another aspect of the second statement is that it is all made up of judgements or evaluations, and like most judgements, they are all arguable. Are these children messy, or are they simply excited and involved in what they are doing? Do they care nothing about tidiness, or is it simply they don't care about it every day? If a group of visitors were coming, would their attitude be different? Are they terrible, or simply children? I trust it is evident that when we make judgements, they are almost never fully accurate and hence cause

resentment and anger as well as guilt and apprehension. Had she used the second statement, the response of the class would have been entirely different.

Actually the achievement of realness is most difficult, and even when one wishes to be truly genuine, it occurs but rarely. Certainly it is not simply a matter of the words used, and if one is feeling judgemental, the use of a verbal formula that sounds like the sharing of feelings will not help. It is just another instance of a facade, of a lack of genuineness. Only slowly can we learn to be truly real. For first of all, one must be close to one's feelings, capable of being aware of them. Then one must be willing to take the risk of sharing them as they are, inside, not disguising them as judgements, or attributing them to other people. This is why I so admire Miss Shiel's sharing of her anger and frustration, without in any way disguising it.

A trust in the human organism.

It would be most unlikely that one could hold the three attitudes I have described, or could commit herself to being a facilitator of learning unless she has come to have a profound trust in the human organism and its potentialities. If I distrust the human being, then I must cram her with information of my own choosing lest she goes her own mistaken way. But if I trust the capacity of the human individual for developing her own potentiality, then I can provide her with many opportunities and permit her to choose her own way and her own direction in her learning.

It is clear I believe, that the teachers rely basically upon the tendency towards fulfilment, towards actualization, in their students. They are basing their work on the hypothesis that students who are in real contact with problems that are relevant to them wish to learn, want to grow, seek to discover, endeavour to master, desire to create, move towards self discipline. The teacher is attempting to develop a quality of climate in the classroom and quality of personal relationship with students that will permit these natural tendencies to come to their fruition.

Living the uncertainty of discovery

I believe it should be said that this basically confident view of the human being and the attitudes toward students that I have described do not appear suddenly, in some miraculous manner, in the facilitator of learning. Instead, they come about through taking risks, through acting on tentative hypotheses. I can only state that I started my career with the firm view that individuals must be manipulated for their own good; I only came to the attitudes I have described and the trust in the individual that is implicit in them because I found that these attitudes were so much more potent in producing learning and constructive change. Hence, I believe that it is only by risking herself in these new ways that the teacher can discover, for herself, whether or not they are effective, whether or not they are for her.

I will then draw a conclusion, based on the experiences of the several facilitators and their students that have been included up to this point. When a facilitator creates, even to a modest degree, a classroom climate characterized by all that she can achieve of realness, prizing, and empathy; when she trusts the constructive tendency of the individual and the group; then she discovers that she has inaugurated an educational revolution. Learning of a different quality, proceeding at a different pace, with a greater degree of pervasiveness, occurs. Feelings - positive, negative, confused - become a part of the classroom experience. Learning becomes life and a very vital life at that. The student is on the way, sometimes excitedly, sometimes reluctantly, to becoming a learning, changing being.

Evidence from students

Certainly before the research evidence was in, students were making it clear by their reactions to student-centred or person-centred classrooms that an educational revolution was underway. This kind of evidence persists to the present day.

The most striking learnings of students exposed to such a climate are by no means restricted to greater achievement in

the three Rs. The significant learnings are the more personal ones - independence, self-initiated and the responsible learning, release of creativity, a tendency to become more of a person. I can only illustrate this by picking, almost at random, statements from students whose teachers have endeavoured to create a climate of trust, of prizing, of realness, of understanding, and above all, of freedom here is one of a number of statements made by students in a course on poetry led by Dr. Samuel Moon.

In retrospect, I find that I have actually enjoyed this course, both as a class and as an experiment, although it had me quite unsettled at times. This, in itself, make the course worthwhile since the majority of my courses this semester merely had me bored with them and the whole process of 'higher education.' Quite aside from anything else, due mostly to this course, I found myself devoting more time to writing poetry than to writing short stories, which temporarily interfered with my writing class.

I should like to point out one very definite thing which I have gained from the course; this is an increased readiness on my part to listen to and to seriously consider the opinions of my fellow students. In view of my past attitude, this alone makes the course valuable. I suppose the real result of any course can be expressed in answer to the question, 'Would you take it over again?' My answer would be an unqualified 'Yes.'

I should like to add to this several comments from Dr. Bull's sophomore students in a class in adolescent psychology. The first two are midsemester comments.

This course is proving to be vital and profound experience for me... This unique learning situation is giving me a whole new conception of just what learning is... I am experiencing a real growth in this atmosphere of constructive freedom... the whole experience is challenging.

I feel that the course had been of great value to me... I'm glad to have had this experience because it has made me think... I've never been so personally involved with a course

before, especially outside the classroom. It has been frustrating, rewarding, enjoyable, and tiring!

The other comments are from the end of the course:

This course is not ending with the close of the semester for me, but continuing... I don't know of any greater benefit which can be gained from a course than this desire for further knowledge.

I feel as though this type of class situation has stimulated me more in making me realize where my responsibilities lie, especially as far as doing required work on my own. I no longer feel as though a test date is the criterion for rreading a book. I feel as though my future work will be done for what I will get out of it, not just for a test mark.

I think that more I am acutely aware of the breakdown in communications that does exist in our society from seeing what happened in our class ... I've grown immensely. I know that I am a different person than I was when I came into that class... It has done a great deal in helping me understand myself better ... thank you for contributing to my growth.

My idea of education has been to gain information from the teacher by attending lectures. The emphasis and focus were on the teacher ... One of the biggest changes that I experienced in this class was my outlook on education. Learning is something more than a grade on a report card. No one can measure what you have learned because it's personal thing. I was very confused between learning and memorization. I could memorize very well, but I doubt if I ever learned as much as I could have. I believe my attitude toward learning has changed from a grade-centred outlook to a more personal one.

If you wish to know what this type of course seems like to a sixth grader, let me give you a sampling of the reactions of Miss Shiel's youngsters, misspelling and all.

I feel that I am learning self ability. I am learning not only

work but I am learning that you can learn on your own as well as someone and all.

I like this plan because there is a lot of freedom. I also learn more this way than the other way you don't have to wait for others you can go at your own speed rate and it also takes a lot of responsibility.

Or let me take two more, from Dr. Appell's graduate class:

I have been thinking about what happened through this experience. The only conclusion I come to is that if I try to measure what is going on, or what I was at the beginning, I have got to know what I was when I started - and I don't...so many things I did and feel are just lost...scrambled up inside... They don't seem to come out in a nice little pattern or organization I can say and write...There are so many things left unsaid. I know I have only scratched the surface, I guess. I can feel so many things almost ready to come out... maybe that's enough. It seems all kinds of things have so much more meaning now than ever before...This experience has had meaning, has done things to me and I am not sure how much or how far just yet. I think I am going to be a better me in the fall. That's one thing I am sure of.

You follow no play, yet I'm learning. Since the term began I seem to feel more alive, more real to myself. I enjoy being alone as well as with other people. My relationships with children and other adults are becoming more emotional and involved. Eating an orange last week, I peeled the skin off each separate orange section and liked it better with the transparent shell off. It was juicier and fresher tasting that way. I began to think, that's how I feel sometimes, without a transparent wall around me, really communicating my feelings. I feel that I'm growing how much, I don't know. I'm thinking, considering, pondering and learning.

I can't read these student statements - sixth grade, college, graduate level- without being deeply moved. Here are teachers, risking themselves, being themselves, trusting their students, adventuring into the existential unknown, taking the

subjective leap. And what happens? Exciting, incredible human events. You can sense persons being created, learnings being initiated, future citizens rising to meet the challenge of unknown worlds. If only one teacher out of 100 dared to risk, dared to be, dared to trust, dared to understand, we would have an infusion of living spirit into education that would, in my estimation, be priceless.

The effect upon the instructor

Let me turn to another dimension that excites me. I have spoken of the effect upon the student of a climate that encourages significant, self-reliant, personal learning. But I have said nothing about the reciprocal effect upon the instructor. When she has been the agent for the release of such self-initiated learning, the faculty member finds herself changed as well as her student. One such says:

To say that I am overwhelmed by what happened only faintly reflects my feelings. I have taught for many years but I have never experienced anything remotely resembling what occurred. I, for my part, never found in a classroom so much of the whole person coming forth, so deeply involved, so deeply stirred. Further, I question if in the traditional setup, with its emphasis on subject matter, examinations, grades, there is or there can be place for the 'becoming' person with his deep and manifold needs as he struggles to fulfil himself. But this is going far afield. I can only report to you what happened and to say that I am grateful and that I am also humbled by the experience. I would like you to know this for it has enriched my life and being.

Another faculty member reports as follows:

Rogers has said that relationships conducted on these assumptions mean 'turning presentn day education upside down.' I have found this to be true as I have tried to implement this way of living with students. The experiences I have had have plunged me into relationships which have been significant and challenging and beyond compare for me. They have inspired me and stimulated me and left me at times

shaken and awed with their consequences for both me and the students. They have led me to the fact of what I can only call...the tragedy of education in our time - student after student who reports this to be his first experience with total trust, with freedom to be and to move in ways most consistent for the enhancement and maintenance of the core of dignity which somehow has survived humiliation, distortion, and corrosive cynicism.

Too idealistic?

Some readers may feel that the whole approach of this chapter - the belief that teachers can relate as persons to their students - is hopelessly unrealistic and idealistic. They may see that in essence it is encouraging both teachers and students to be creative in their relationship to each other and in their relationship to subject matter, and feel that such a goal is quite impossible. They are not alone in this. I have heard scientists at leading schools of science and scholars in leading universities arguing that it is absurd to try to encourage all students to be creative - we need hosts of mediocre technicians and workers, and if a few creative scientists and artists and leaders emerge, that will be enough. That may be enough for them. It may be enough to suit you. I want to go on record as saying it is not enough to suit me. When I realize the incredible potential in the ordinary student, I want to try to release it. We are working hard to rethe nucleus of the atom. If we do not devote equal energy - yes, and equal money - to the release of the potential of the individual person then the enormous discrepancy between our level of physical enefgy resources and human energy resources will doom us to a deserved and universal destruction.

Towards Guidelines for Adult Learning Practice

Developing in adults a sense of their personal power and self-worth is seen as a fundamental purpose of all education and training efforts. Only if such a sense of individual empowerment is realized will adults possess the emotional strength to challenge behaviours, values, and beliefs accepted uncritically by a majority. Both causally antecedent to, and concurrent with, this developing sense of self-worth in the individual comes an awareness of the contextuality of knowledge and beliefs. The task of the educator, then, becomes that of encouraging adults to perceive the relative, contextual nature of previously unquestioned givens. Additionally, the educator should assist the adult to reflect on the manner in which values, beliefs, and behaviours previously deemed unchallengeable can be critically analyzed. Through presenting alternative ways of interpreting and creating the world to adults, the educator fosters a willingness to consider alternative ways of living.

These criteria are offered for consideration by educators as fundamental indicators by which they may judge the worth of a formal or informal effort to facilitate learning. In real life, of course, all adults will not develop a sense of self-worth, an awareness of the contextuality of knowledge, a willingness to speculate on alternatives, and a capacity to re-create their personal and social worlds, according to the neatly sequenced

stages described in the previous paragraph. Some adults will come to appreciate the contextuality of knowledge or learn to speculate on alternatives, without having the sense of self-worth and personal power needed to realize those alternatives. Others will have the internal strength to alter certain peripheral features of their lives but will be unable to change the patterns that govern their significant personal relationships. Still others may consider social alternatives and even imagine new political forms, but lack the techniques, skills, or collective support needed to effect change. This does not mean, however, that we should abandon attempts to specify as clearly as possible the criteria we are adopting to determine the success of our efforts.

Such criteria will inevitably, take the form of abstractions. They will be oversimplifications of reality. The real world of social encounters is sufficiently chaotic to make the detection of whether or not these criteria have been satisfied a correspondingly haphazard and often messy enterprise. Nevertheless if we make no attempt to specify criteria, we will be unable to assign value and worthwhileness to different activities. All educational encounters will then exist in some kind of moral vacuum, and we will be unable to judge whether a lecture in which a religious or political dogma is fervently and uncritically expounded is more or less educational than a discussion of the ethical assumptions underlying communism and capitalism.

If we are to wear the mantle of "educator," we must, at some minimum level, make explicit the criteria by which we determine the educational worth of our efforts. Not to do so is unthinking or dishonest, and it is to consign ourselves to being adaptive and reactive satisfiers of whatever consumer learning needs happen to capture our attention. But it is to the means for determining whether or not these criteria are actually being met in an educational activity that we must now turn our attention.

The preceding chapters have been concerned chiefly with matters of practice-facilitating adult learning through self

directed modes, using and pedagogical methods, teaching adults through discussion groups, developing programs for adult learners, and evaluating effective practice. Implicit in these discussion of practice, however, has been a concept of facilitation somewhat different from that held by many practitioners. In this final chapter it is important that the philosophical assumptions on which this concept is based be stated clearly. As has been repeatedly argued, practical expertise that exist in a moral vacuum can be a dangerous thing. Practitioners can become technically proficient but find that without a firm philosophical rationale to guide the application of their skills, they are devoting their efforts to programmes and purposes that are morally dubious.

Contained in these characteristics are features that will be familiar to those who know the literature of humanistic psychology and psycho-therapy- a respect for participants in the teaching-learning transaction, a commitment to collaborative modes of programme development, and an acknowledgment of the educational value of life experiences.

Hence, effective facilitation means that learners will be challenged to examine their previously held values, beliefs, and behaviors and will be confronted with ones that they may not want to consider. Such challenges and confrontations need not be done in an adversarial, combative, or threatening manner; indeed, the most effective facilitator is one who can encourage adults to consider rationally and carefully perspectives and interpretations of the world that diverge from those they already hold, without making these adults feel they are being cajoled or threatened. This experience may produce anxiety, but such anxiety should be accepted as a normal component of learning and not as something to be avoided at all costs for fear that learners will leave the group. There are forms of fulfillment that are quite unlike those produced by a wholly joyful encounter with a new form of knowledge of a new skill area. It is this dimension of increased insight through critical reflection on current assumptions and past beliefs and behaviors that is sometimes ignored in

treatments of adult learning. One purpose of this book is to place the prompting of this form of learning at the heart of what it means to be a good facilitator.

It is important to state, however, that because teaching learning transactions are collaborative, the prompting of critical reflection may not always be done by the participant designated as the facilitator. In the most effective learning groups, facilitating behaviors are assumed by various members of these groups at different times. One features the leaderless groups discussed in Chapter Six—women's consciousness-raising groups, quality circles, political advocacy groups, and so on—is that the member who is responsible for the initial formation of these groups does not have to assume full responsibility for facilitating learning. As a group culture develops, various members will challenge others to examine their current ways of thinking and living, and this activity will be seen as wholly appropriate. As a recent study of self-concept change among black women students at college points out, one of the valued characteristics of good facilitators as identified by these women is a readiness to challenge learners.

Building a critical philosophy of practice

The public articulation of a philosophy of effective practice is an activity viewed with apparent indifference or distaste by many educators and trainers of adults. Such educators might appear to an outsider to be bereft of any rationale for their practice. This is rarely the case. In reality, most practitioners accept employing agency mission statements as general definitions of purpose or declare good practice to be the satisfaction of felt and expressed needs. These positions in themselves exemplify a philosophical rationale—that of pragmatism.

Acceptance of this pragmatic rationale is perhaps most evident in the tendency to equate the design of effective program-planning models with the sum total of effective practice. According to this argument, the education of adults

is a matter of designing, conducting, and evaluating educational experiences so as to meet the felt needs of adults. Hence, practitioner effectiveness becomes defined in terms of processes and activities-the ability to design, conduct, and evaluate programs for learners-rather than in terms of fundamental purposes or curriculum. But if we view effective practice solely as the improvement of ever more refined practice skills and regard facilitator roles and responsibilities as being primarily those of technicians of design, we denude practice of any philosophical rationale, future orientation, or purposeful mission. There exists no philosophical yardstick in terms of criteria of success, notions of purpose, or appropriate curricula against which the effectiveness of such facilitation can be judged. Furthermore, if we accept the view that we should serve only felt needs, then our priorities, purposes, and primary functions will be wholly determined by others. Our curriculum will be devised in response to demands made by those who can best attract our attention and are most articulate in presenting their case. To counter this danger that facilitation will become solely a responsive, reactive activity, it is important that practitioners develop a philosophical rationale, or what Apps calls a belief system, to grant their practice order and purpose. They need to identify those characteristics by which the fundamental worth of any attempt to facilitate adult learning can be judged.

This does not mean that such a philosophy must be exemplified to its fullest degree in every educational encounter with adults. Such an insistence would be so intimidating to practitioners as to prevent any attempt to implement a philosophy. We should regard this rationale rather as a variable that can be realized to a greater or lesser extent at different times, in different settings, with different groups. Even within one class session the extent to which this philosophy is realized will vary with the nature of the individuals concerned, the exercises pursued, and the educator's conduct. Nonetheless, it is vital that a clear rationale be articulated so that practitioners may have a benchmark for judging the extent to which their activities

exemplify fundamental purposes, principles, and practice. Without a coherent rationale, practice will be condemned to an adaptive, reactive mode. Practitioner activities will be determined by current curricular trends or by the ability of certain individuals and groups to make themselves heard and their demands felt.

Several writers have indeed warned of the dangers of succumbing to a reactive and pragmatic rationale. Lawson and Monette have both condemned the inner influence of the service rationale on programmes for adult learners. According to this rationale, practitioners are technicians whose function is to cater to the expressed needs of their clients in as effective a manner as possible. These writers point out that by responding to felt needs, the educator does not have to make value judgments concerning the relative merits of different curricular offerings. Only rarely is there any acknowledgment in the literature of the moral and professional requirement that the educator act in accordance with value choices.

Crabtree has also condemned the manner in which the idea of "customer service" comes to determine the form of the curriculum for adult learners. Similarly, Powell warned against the importing of a business rationale into adult education and expressed his concern at the growing tendency to let a preoccupation with needs assessments and marketing procedures replace the setting of fundamental goals for a program. Seduction of the programmer by evidence of a strong and immediate demand for a certain course offering was also recognized by Herring, who blamed the galloping mediocrity he saw in many programmes for adult learners on the institutionally prescribed need to increase enrollments. Herring lamented the tendency of programme planners to avoid social and political issues that they thought were too serious or too contentious to draw large numbers of participants.

In adult education, however, we seem currently to be in danger of becoming preoccupied with refining techniques to the exclusion of any consideration of the rationale underlying

those techniques. We are philosophically numb, concerned with the design of ever more sophisticated needs assessment techniques, program planning models, and evaluative procedures. It seems not to have occurred to us that the perfection of technique can only be meaningful when placed within a context of some fundamental human or social purpose. Technique is, after all, only a means to broader ends. When technique is worshipped to the exclusion of the human or social purposes it is meant to serve, then it is easy for us to become dazzled by the convolutions of the latest shaman of procedure and by the pronouncements of those who flaunt commonsense ideas regarding teaching and learning under the guise of presenting a revolutionary paradigm of practice.

In contrast, this chapter attempts to comment on the fundamental nature and proper purpose of facilitating learning by outlining a philosophy of practice that comprises three fundamental elements. Finally, on the basis of this definition and its general statement of purpose there should be formulated a set of criteria by which the success of various practitioner efforts can be judged. Such criteria would allow us to reflect on our own practice and to examine the activities of others in terms of their effectiveness.

This definition, statement of purposes, and explication of criteria should be firmly and avowedly prescriptive. A philosophy of practice should, at the most fundamental level, be concerned with the resolution of second-order questions, that is questions that cannot be answered by recourse to the empirical world. In other words, we cannot conduct a survey to determine in some objectively empirical sense what should be the purpose of our efforts. We can conduct assessments of present levels of competence and declare certain populations to be in states of educational need with regard to some previously defined standard. Such assessments are only objective, however, to the extent that they are based on a normatively defined standard of competence. Similarly, by conducting a Delphi survey of adult education professors, we can determine their views on the proper purposes of

facilitation. This survey will not answer for us, however, the fundamental question concerning what should be the purpose of educating adults, for this is a question that is explored in a quite separate area of intellectual discourse. The domain of discourse surrounding such a question is one of prescriptive preferences, moral commitments, and categorical imperatives. We will come to construct our philosophy of practice on the basis of the personal and social imperatives we feel to be most potent. In the course of this construction we will admittedly be cognizant of the opinions of those intellectual leaders we respect. Such opinions cannot grant to our philosophy its internal power and commitment, however, since this will be derived from our experience of the world and from our personal belief system concerning the most desirable and meaningful aspects of this experience.

Implementing the rationale

A philosophy of practice should allow considerable scope for operationalization. In an activity such as facilitating learning, statements of fundamental purpose are of limited value if they cannot be realized in terms of practice. Concomitant with this outline of a philosophical rationale, therefore, should be some guidance in regard to teaching method, curriculum development, program planning, and evaluation. But such techniques will not exist in their own right; they will be grounded in, and derived from, a carefully explicated rationale. This rationale from which are derived various practical injunctions in terms of planning, teaching, curriculum development, and evaluation - will serve as a yardstick against which the effectiveness and worth of a particular effort can be judged. This philosophy and its concomitant operationalizations should serve as a benchmark and as a guide by which practice can be mapped.

The philosophy of practice proposed within this last chapter centers on the notion of the adult's developing sense of control and autonomy. Such autonomy is not to be equated with atomistic isolation; rather, it is realized in personal relationships, in sociopolitical behavior, and in intellectual

judgment. The purpose of facilitation is to assist individuals to begin to exercise control over their own lives, their interpersonal relationships, and the social forms and structures within which they live. This is not to say that facilitation will enable adults to exert complete control over all aspects of their worlds. However, it is possible to envisage existences that are more or less meaningful and authentic to the individuals involved, according to the degree to which they feel they have some proactive role in creating their worlds.

It is proposed that all involved in teaching-learning transactions assist each other to identify the external sources and internalized assumptions framing their conduct and to be ready to assess these critically. Such critical awareness will involve an appreciation of the contextual, provisional, and relative nature of truth, public knowledge, and personal beliefs. When a disjunction becomes evident between adults' individual aspirations and the socially received codes, value frameworks, and belief systems informing their behavior, then autonomy is reflected in a jettisoning of received assumptions. Occurring along with this abandonment of assumptions perceived as irrelevant and inauthentic will be the transformation of individual and collective circumstances.

Teaching-learning transactions are no exceptions to this rule; indeed they possess an unusual degree of potency in that the facilitator's statements and comments are typically granted a high degree of credibility and significance by learners. Learners grant authority to interpretations, generalizations, and statements of preference made by the facilitator, even though he or she may show this equality of status with learners and emphasize that they are partners in a collaborative endeavour. Facilitators may profoundly dislike this role, particularly those of a democratic, egalitarian temper. To be the beneficiary of imputations of moral as well as intellectual superiority by learners is confining and often even embarrassing. However, inasmuch as most adults received an initial education that encouraged them to see

teachers as authority figures, it is hardly surprising if they prove incapable, at least at first, of viewing the facilitator as partner and intellectual collaborator.

This ascribed authority places facilitators in an uncomfortable position, particularly if they subscribe to andragogical principles. It also makes the adoption of an ethical code of practice—a requirement of first importance in any profession doubly necessary. Any position of authority, whether ascribed or prescribed, carries within it the possibility of abuse. This potential will be reduced if facilitators seek, as rigorously as possible, to submit all assertions to critical scrutiny. Facilitators will cite appropriate evidence for any generalizations they make and will treat all theories, explanatory systems, standards of esthetic discriminations, conceptual constructs, and criteria of excellence as provisional and relative.

Aside from viewing theoretical systems or explanations as provisional, the facilitator should also present alternative interpretations and possibilities to students. Such alternatives may be esthetic, cognitive, or sociopolitical. Hence, a course on craft skills should encourage inquiries into the origins of standards of excellence and not concentrate only on the development of psychomotor skills exemplifying those standards. A similar requirement also holds for courses dealing with bodies of cognitive knowledge. These should submit central concepts and theoretical frameworks to critical review. Criteria of intellectual excellence should be viewed as humanly contrived, not divinely ordained, and all statements and assertions should be regarded as provisional. With regard to those courses dealing with behavioral phenomena—for example, role training, interpersonal skill development, or counselling techniques—the twin canons of relativity and provisionality also pertain.

In fields such as health education, administrative studies, or personnel management, training courses can only qualify as examples of effective facilitation if the behavioral paradigms presented in them are subjected to critical scrutiny. Moreover,

if such courses are to be seen as involving education and not simply training, they must incorporate a willingness to consider alternatives to the popularly prevailing norms governing correct professional behaviors. Participants in such courses would learn to be skeptical of definitive sets of principles of practice and to view conventionally accepted wisdom or apparently exemplary behaviors as relative and provisional.

The chief argument proposed here is that effective facilitation is present when adults come to appreciate the relative, provisional, and contextual nature of public and private knowledge and when they come to understand that the belief systems, value frameworks, and moral codes informing their conduct are culturally constructed. It is also evident when adults are enabled to create meaning to their personal worlds through a continual redefinition of their relationships with others. Following on from this exhibition of personal autonomy and the realization that individual circumstances can be consciously altered comes the insight that it is possible, in concert with others, to change cultural forms, including attitudinal sets, role expectations, conventions, and folkways, as well as social structures.

This concept of facilitation is obviously prescriptive; that is to say, the outcomes identified in the preceding paragraph are given in the form of stipulative preference statements. This is not to imply that adults can become adept at critical reflectivity in some final, static manner. Rather, it is to say that adults should be encouraged to engage in the continuous critical analysis of received assumptions, commonsense knowledge, and conventional behaviours. The state of adulthood can never be fully realized, and it is not a question of an adult's acquiring a set of fixed competencies. Adult education as a transactional encounter is essentially a process. Central to this process is a continual scrutiny by all involved of the conditions that have shaped their private and public worlds, combined with a continuing attempt to reconstruct those worlds. This praxis of continual reflection and action

might be accurately viewed as a process of lifelong learning.

It is important to realize that philosophical prescriptions painstakingly derived from impeccably developed rationales are going to be contradicted daily in the real world of practice. Teaching-learning transactions are, after all, dynamic interactions—psychosocial dramas in which unforeseen eventualities, serendipitous circumstances, and individual idiosyncrasies constantly distort our neatly planned visions of how our learning groups should function. Educators employed within formal educational institutions daily contradict their own prescriptions concerning how best to foster learners' freedom and individuality.

An example drawn from my own practice may illustrate what I mean. In a course I teach on the philosophy and theory of adult education, I generally invite group members to identify within this same course any elements of "banking education" practices that they may perceive. Very often, as the learning group reviews the curriculum, format of meetings, and evaluative procedures of the last few weeks or months, it becomes evident that a familiar dynamic has operated, despite all our best intentions to the contrary. According to this dynamic, I have begun by emphasizing the collaborative nature of the course and then, with the apparently unwitting connivance of course members, have proceeded to assume major responsibility for the most important decisions concerning course content and format. Although all members of the group pay frequent testimony to the need to draw on individual participants' own experiences, to ground curricula in their concerns, and to evolve a collaborative format, we fall easily and unthinkingly into a pattern of interaction whereby I begin to expound on adult education from an expert standpoint and they passively receive my distilled wisdom. Participants and I have been socialized to such an extent into a banking education mode that we fall easily into our respective roles of authority figure and inexperienced learners, no matter what our resolutions to the contrary. Educators of adults, as

much as learners, uncritically assimilate various assumptions, norms, beliefs, and values, and it is a genuinely humbling experience to ask participants in a learning group to point out the disguised authoritarianism in one's own practice.

What must never be lost sight of, however, is the need to develop a clear rationale for practice, even though that rationale may be contradicted or only partially realized in the day-to-day practitioner reality of facilitating learning. Without such a rationale we are little more than reactive automata-ciphers through whom are channeled the latest curricular or methodological fads, irrespective of any consideration of their innate validity. While a healthy skepticism regarding the possibility of continually exemplifying such a philosophy of practice is essential to the sanity of facilitators, the necessity to develop such a philosophy should be regarded as fundamental to good practice.

Educators of adults have grown accustomed to living with organizational and professional contradictions. They probably became facilitators because they saw that as a way of increasing individuals' fulfillment, happiness, and sense of control, yet organizational criteria for their success are frequently antithetical to these motivations. In colleges and universities, for example, educators are encouraged to develop curricula and to arrange classrooms so as to attract the largest possible number of learners. The reason for this is not only to add to the sum total of human happiness and enlightenment, but also to make money. Educational institutions, particularly in an era dominated by supply side economics, are viewed by politicians, trustees, administrators, and sometimes even faculty partly as educational enterprises partly as business operations. Hence, the greater the numbers of students that can be attracted, the greater the revenues for the educational institutions. In business and industrial settings, these economic criteria are applied quite openly to determining the success of training initiatives. While trainers may hope that workshops and seminars will enable adults to make sense of themselves and their worlds, their success as

trainers will be judged by whether or not productivity rises as a consequence of attendance at the training sessions.

Furthermore, most educators and trainers of adults subscribe to a professional code that acknowledges the value of democratic collaboration and the inequity of forcing students to learn. Yet in their daily practice they repeatedly encounter a set of contextual constraints that force them into precisely the behaviors that they criticize in philosophical terms. Institutional timetables, economic necessities, standardized curricula, and unofficial norms of "what works in the real world" all conspire to nudge the educator into more didactic, authoritarian attitudes and behaviors than he or she might wish. The conspiracy of contextual constraints becomes all the more compelling when learners repeatedly declare that they wish for more direction from facilitators or that they want facilitators to "put more of themselves" into the learning encounter. Learners, as much as facilitators, have been socialized into a view of education as an authoritarian-based transmission of information, skills, and attitudinal sets from teacher to taught. Under these circumstances, it will often be hard for educators to stand firm against the temptation to take more control over the learning encounter. Yet to give in to this temptation is to reaffirm precisely those patterns of dependency that prevent adults from becoming empowered, self-directed learners.

Given the force of these organizational constraints and professional expectations, it is not surprising that facilitators revert, with only an occasional twinge of conscience, to patterns of behavior they observed in their own teachers. How, then, can they break these patterns and begin to assume the kinds of facilitation roles outlined in this book? My answer is, only by developing a thoughtful rationale to guide their practice. Possessed of such a rationale, facilitators are more likely to stand firm against organizational and professional imperatives that exert pressure on them to dominate learners under the guise of "providing structure" or "clarifying ambiguities." Without such a rationale it is likely that most

facilitators will sooner or later fall unthinkingly into patterns of facilitation that support structures of organizational convenience and confirm learners' patterns of dependency learned in the school classroom but have little to do with assisting adults to create, and re-create, their personal, occupational, and political worlds.

Central to the nation of discussion are two features that may be either complementary or contradictory. Discussion sessions can be judged successful to the extent to which they pursue certain cognitive ends or to the extent to which all members offer verbal contributions of approximately equal length. In a critique of discussion behaviors, I have examined the way in which discussion groups can become arenas of psychodynamic struggle and fields of emotional battle. Many adults were schooled in competitive settings in which the pursuit of knowledge was obscured by the quest for grades and examination success. It is hard for such individuals to accept openness of discourse and to tolerate diverse opinions. Since discussion session are invested with emotional significance, any disagreement may well be interpreted as a personal assault. Additionally, groups tend to place high value on cohesiveness and to exclude deviant opinions. But as Fawett-Hill maintains, it is important that groups tolerate deviant opinions. Such divergence guards against intellectual stasis.

Bridges has specified certain epistemological underpinnings of discussion. All members should have respect for each other, and all should be septical of their own, as well as of others', authority. Bridge also prescribes a moral culture for group discussion; it includes six ethical principles that participants should accept as the tacit assumptions underlying their discourse: reasonableness, peaceable orderliness, truth-fulness, freedom, equality, and respect for persons. Discussion conforming to the epistemological principles and moral culture outlined by Bridges would be characterized by openness of content, membership, and learning outcomes. Participants would set aside their own

prejudices to entertain imaginative speculation. Paterson proposes discussion as the educational activity par excellence. It is an educational end in itself, requiring no extrinsic justification. To Paterson, adults commit and discover their whole beings in the process of presenting for group consideration their interpretations of their experience. He writes that "to address others in discussion...is to bear witness to one's attempt to reconstruct one's experience meaningfully, and it is at the same time to invite others to share this reconstructed experience". In this way participation in open discussion becomes a characteristically human activity of the most intimate and fundamental kind. Since openness is an essential characteristic for discussion, the concept of guided discussion must be discarded. In Paterson's words, "True discussion cannot be directed, or even guided, for to attempt to do so is in effect to opt out of the discussion, to close one's consciousness to alternative interpretations of the phenomenon under discussion before these alternatives have ever been stated"

To participate in this authentic form of mutual address, in this collaborative search for meaning, requires personal courage and analytic ability of a high order. It requires adults to be willing to examine the cultural origins of many of their beliefs, to be aware of how many of the assumptions that inform their conduct have been acquired from external sources and authorities such as parents, schoolteachers, and peers, and hence to view their dearly held meaning systems as provisional and relative. In this sense to participate in discussion-in the collaborative externalization, exploration, and critical analysis of personally significant meaning systems is to realize one's adulthood to its fullest extent.

Four conditions can be identified that, if they are met, are likely to increase the chance that productive discussion will occur. The first of these is for group members to devise an appropriate moral culture for group discussions. This requires the group to arrive at a set of procedural rules for achieving equity of participation. Second, discussion leaders can give some thought to the materials that are to form the substantive

focus of group discussions. The questions to be discussed should not be too factual or too uncontroversial, and they should not be answerable in the course of preparatory reading by the group. Third, the leader should be well versed both in the subject matter to be covered during the discussion and in the principles of group dynamics. Only someone skilled at dealing with the problems caused by apparent isolates, pressures to silence deviants, and those adults who attempt to use the group as a means of bolstering their self-esteem can be said to be an effective discussion leader. Fourth, discussion participants should be prepared for discussion not only through the generation of a moral culture for discussion session but also through the development of reasoning skills and the improvement of communication abilities. In providing a forum for the pursuit and realization of these reflective analytical skills, as well as in requiring participants to evolve a democratic, moral culture governing group discourse, the discussion method is uniquely suited to facilitating critical adult learning. Although collaborative discussion is now seen as an effective mode of facilitating learning, the literature that deals with instructional methods is still based mainly on the work of Tyler, and the task of teaching adults is frequently seen as a subcategory of the general task of program development. Teaching is relegated to step three or four in different models of program development, including those of Houle, Knowles, Verner, Lauffer, and Boyle. In fact, teaching is generally not referred to as "teaching" at all, but rather as management of learning experiences, instructional management, or implementation of the instructional plan.

As will be argued, however, this view is only one of a number of approaches to teaching adults. The Tylerian model of objectives-oriented program development in which learners acquire skills and knowledge specified in advance by the teacher and in which success is measured by learners performance of predetermined behaviors is often constraining and overly restrictive. The model does have some utility, but chiefly in the area of psychomotor skill acquisition. Tyler

developed his work to assist schoolchildren acquire specific, predetermined skills and knowledge of an unambiguous, technical kind. In some training contexts where it is a question of acquiring technical skills, the sequenced, objectives-oriented nature of the model is highly satisfactory.

The problem is that some facilitators of learning have taken this model as the paradigm suitable for encouraging all kinds of adults learning. Much of the most significant adult learning, however, is of a nontechnical kind. It is concerned with the resolution of moral difficulties, with the development of self-insight, with acquiring the capacity to explore the world views of others, with reflection on experience, and with the evolution of personal ethical codes. One mode of teaching and learning highly suitable for these forms of learning is the discussion method. It is striking just how frequently the educational activities organized by adult learners themselves take this form.

For example, collaborative discussion is typically found in groups organized by single parents, the recently bereaved, divorcees, homosexuals, newly arrived immigrants, drug abusers, and feminists. These groups are composed of individuals who are seeking a reinforcement of their sense of self-worth. Their members are engaged in a redefinition of self and in a reinterpretation of their past actions and relationships from a newly realized psychological vantage point. They are also all seeking to set forth their experiences, to understand and explore others' experiences, and to heighten their self-awareness through this process of collaborative interpretation. The leadership of such groups is typically rotational. At different times, various individuals within these groups will take the responsibility for encouraging others to contribute to the discussion and will attempt some kind of analysis or interpretation of the experiences that have been voiced.

The adults in these groups are attempting to create new meaning systems. They are reinforcing each others' dormant, half-preceived feeling that there is some massive disjunction

between their present ways of living and thinking, on the one hand, and the kind of existence they ideally envisage for themselves, on the other. At times these support and experience exchange groups transform themselves into activist groups that work to change oppressive external conditions. For some groups a common pattern will be a form of praxis in which analysis of common experiences alternates with public advocacy and demonstrations. The very act of participating in a public demonstration in support of gay rights or to demand changes in housing and welfare policies to benefit single parents will serve to strengthen and reinforce these adults' newly adopted and newly created identities. For groups of drug abusers, divorcees, newly arrived immigrants, or the recently bereaved, however, it will often be enough for members to meet regularly for support, for the presentation and analysis of typical problems, and for the gaining of practical assistance in negotiating the changed circumstances of their lives.

Teaching outcomes

We have emphasized that the concept of facilitation should be broadened to include activities in which adults are encouraged to consider alternative ways of thinking and living and in which they are prompted to scrutinize critically the extent to which supposedly universal beliefs, values, and behaviours are in fact culturally constructed. But if we prompt adults to consider these questions, are we not really engaging in a form of amateur psychotherapy? Asking people to reflect on their experience, to consider the motivations underlying their actions, and to try to appreciate the way in which their behaviors are perceived by others sound dangerously close to playing at therapist. This argument deserves to be taken seriously. There are many adults who suffer from clinically diagnosed conditions that range from schizophrenia to severe depression. For an educator to presume to treat them effectively is folly indeed.

There are, however, many adults who are troubled, frustrated with circumstances in their personal or

occupational lives, insecure concerning their abilities, and seeking ways to develop more productive relationship with others. Such adults may be disturbed at certain aspects of their personal lives, but they are in no sense clinically "disturbed." There are very few readers of these words, I would venture, who are not disturbed at some aspect of their personal worlds or occupational lives, and it is precisely these adults who frequently form the clientele of adult classes. One of the great tragedies of contemporary life is the overprofessionalization of all aspects of human interaction. We are getting dangerously close to believing that we can engage in thoughtful self-reflection only if we are sanctioned by some professional to whom we pay a fee for the supervision of our self-reflection. Those who accept the argument that adults can undertake reflection on their past actions and current relationship only under the guidance of a skilled psychotherapist are doing nothing more than supporting the professional power and prestige of therapists.

One of the most valuable inquiries into methods of helping adults become critically reflective was initiated by Perry and pursued by Weathersby, Weathersby and Tarule, Boud, and Cameron. Instead of talking in a general way about the development in learners of critical awareness and the realization of the contextual, subjective aspects of the world, Perry sets forth nine intellectual stages, which he terms positions. These positions are not meant to be rigidly sequential nor to be mutually contradictory. Additionally, they do not include all the intellectual orientations possible in adulthood since they are derived from a series of intensive interviews with undergraduate students at Harvard. They do provide a useful analytical structure, however, that can be applied to understanding the development of critical reflectivity in adults, without in any way presuming them to be inevitably followed in every case. Indeed, with his undergraduates Perry freely admits that students became frozen at different stages of passive detachment of dualist absolutism.

Put simply, Perry's nine positions represent a move from an initial dualist perspective in which the world is perceived as comprised of black and white, mutually exclusive polarities to one in which the individual has come to a realization of the contextuality and relativity of the world and has then gone on to make a conscious commitment to one of many possible identities. In their exploration of these ideas on ethical growth and intellectual development as they relate to adulthood, the Syracuse Rating Group has also distinguished nine stages in adults' intellectual and ethical development. The final stage of "developing commitments" is distinguished by an awareness of the effect that individual behaviors have on others and by a continuous search for new challenges. This search is undertaken with full knowledge that these challenges involve risks to one's self-esteem and that this final stage is never really "final". In leading up to this final stage, adults typically pass through stages in which they begin to view knowledge as contextual and become able to take on the perspective of others. This recognition of the contingency of knowledge inevitably brings about an appreciation of the socially created nature of knowledge. Immediately prior to stage nine are those stages in which adults realize that only through making a commitment will a sense of individual meaning and responsibility for the creation of their personal worlds emerge.

As Boud has noted with regard to the Perry scheme, "It is helpful for the teacher to have in mind that within the same class there will probably be students with radically different outlooks on what is taking place, who will be reacting in very different ways". An early application of the earlier stages of this framework to a sample of adult students at community college identified dualist, multiplist, and relativist positions among the adults studied. The study noted that faculty in community colleges typically teach content in the same manner, regardless of the intellectual development of class members, and that faculty need to be more flexible in their pedagogic role to take account of the diversity of intellectual stages present in any class. The Perry scheme represents an interesting area of future speculation for theorists of adult

learning. Perry's contribution has been to posit an initial framework in which the transition from dualism to relativism to critically aware commitment has been clearly outlined. If these stages can be translated into specific outcomes, with sufficient flexibility of interpretation so that widely varying settings can be included, this might provide adult teachers with a means by which they could recognize the diversity of stages reached by different members of learning groups. Alternatively, and in a more inductive manner, the framework provides an analytical construct that one can apply to many different educational initiatives as a way of coming to understand the teaching-learning transactions occurring therein.

There is little doubt that didactic pedagogic procedures in which learners are viewed as receptive repositories eagerly awaiting the deposits of experts are not likely to result in the development of critically aware commitment as outlined by Perry. Rather than looking to concepts of teaching drawn from research on traditional teaching methods, therefore, it might be more fruitful to consult concepts and practices drawn from related fields such as community development or community action. The concept of the animateur is one such idea, and UNESCO has explored the manner in which training schemes to develop animataeurs might be established. At the very least, it is important to realize that between the authoritarian transmission of information to uncritically receptive automata and the nondirective, free-flowing realization of learner-defined activities lies a crucial facilitation role. Facilitators have to be as wary of supporting every inclination, preference, or demand of learners as they are of forcing these same learners to follow a lockstep sequence of previously prescribed educational activities. In both instances learners are liable to develop an uncritical stance toward their own personal and intellectual development; in the one case because their opinion is never challenged or questioned, in the other because they are given no choice or chance to voice an opinion. Either option denies the essentially transactional nature of teaching-learning, and both options pretend that challenge,

creative confrontation, and self-scrutiny have no place in adult learning. Without these elements, learners may find their educational encounters initially comforting but they will sooner or later come to suspect that such encounters are not really educational at all. When this awareness finally dawns, the resultant withdrawal from participation will have the same significance and result from the same kind of frustration as that caused by the learner's being allowed no voice in the educational transaction.

The global context

Profound changes of various types throughout the world have caused profound thinking regarding the role that education must play in helping people enhance the quality of their lives. Compton and Parish suggest that at least three concerns must be addressed in some way through educational efforts:

- 1 The increasing gap between the rich and the poor; the gap between rich nations and developing nations.
- 2 The disproportionate share of the world's resources now allotted to dominant world.
- 3 The increasing awareness in the Third World of the double standard of living.

Such concerns as these plus the constancy and rapidity of change, suggest to us a need to help people make the most of their individual potential. Boucouvalas describes a standing regulation in Greece that captures this notion of promoting individual ability: "The view of as a self-sufficient and independent personality and as the agent of development". It seems that learner self-direction and self-directed learning skills are crucial to the achievement of this human potential.

The study of self-directed learning appears to be primarily western in orientation and interest, with little relationship many parts of the world. In fact, the majority of recent research, writings, and language related to self-direction in learning have emanated from North America.

We thus believe that it is important to our success with adults as learners to take a more global approach in our understanding about self-direction in learning. We realize that not all our assumptions about learners and their abilities to accept personal responsibility will translate entirely from one setting or culture to another. However, this chapter's purpose is to present some reflections and understandings regarding the universality of self-directed learning principles and approaches.

Some international perspectives on self-direction

We will present some background information before launching into discussions about self-directed learning in selected countries. Both of us have had many international students in our courses. Observing the successes and difficulties involved with facilitating their independent learning have provided us with some understanding of requirements across cultures in applying self-directed learning principles. We also have examined some of the international literature related to self-directed learning and have interviewed and talked informally with several people from other countries to obtain their views regarding such topics as autonomy, learner control, and instructor roles. Thus, what will follow is a summary of the literature we have studied regarding self-direction in selected settings outside of North America. In addition, for two countries, we present a description of how indigenous adult educators believe that self-direction in learning would be possible in their respective countries.

We also need to say something about the nature of self-direction in learning in various cultures. Based on our reading and conversations with people from various countries, there seem to be many different ideas about what it means to study or plan individually. One country will have as an avowed policy the promotion of individual learning ability, while at the same time advocating participation in governmental sponsored programs to achieve such a goal. Another country will talk about self-education as a primary means for adults to

learn, but the nature of the programs described would indicate to a North American observer that new opportunities exist for individualized decision-making regarding the learning process.

Another problem stems from the structural design of certain approaches intended to promote independent study. For example, a correspondence course that requires strict adherence to a planned route of readings and testing procedure may offer little freedom to the learner other than pacing or sequencing of micro-learning components. Ljosa and Sandvold, on the other hand, make a case for the various ways by which learners can exercise freedom of choice within the didactical structure of correspondence education.

Moore describes how he thought about learner freedom in designing an Open University course. The course was based on: (a) a psychological climate that emphasized learner decision-making and experience; (b) an emphasis on self-diagnosis; (c) a personally planned route of study; (d) a tutor seen as a resource person; (e) some learner-designed evaluation criteria; and (f) an emphasis on each student's personal learning experiences.

A wide range exists in interpreting and permitting freedoms such as these within the learning setting. As noted earlier in the chapter, some suggest that self-direction is primarily a middle-class, white phenomenon by its emphasis on the individual. Even though some research has demonstrated that certain self-directed learning concepts hold across racial, economic, and social groupings, the concepts may not always directly apply in other cultural contexts. However, we firmly believe that as long as cultural context is recognized and respected, it is possible to apply many of the instructional and learning tips described in this book in any setting.

There are many countries that should be examined in terms of their self-directed practices, activities, or philosophies. However, that needs to be the subject of another

book as we work toward a better understanding of various implications for the way in which adults are helped in their efforts to maximize their potential. In this section, we touch on just a few countries in order to highlight interesting aspects of self-direction in different cultural contexts.

Scandinavia

Scandinavian countries have a long history of adult education. Grundtvig's pioneering work in Denmark with the folk high school movement began in 1844. Grundtvig, in developing the folk high school movement, wanted an educational experience for adults that was residential in nature but small in scope. He also wanted a mixture of practical and theoretical work, supported by lots of discussion. These institutions therefore stress work in the group setting, and are aimed at the individual development of each person. In fact, their methods and environment are designed to encourage individuals of all social classes to broaden their personal horizons. Folk schools have spread to many other countries in the past century and a half.

Sweden has made several efforts to promote education for adults that is self-directed in nature. One stated adult education aim of the Swedish government, for example, is to cater "to individual preferences and needs" 1977 governmental ordinance called for learning opportunities to increase awareness of personal capacity, to develop independence, to promote creativity, and to foster critical reflectivity.

One of the most innovative approaches to adult education has been the study circle. These have been used to provide many citizens in Sweden with an opportunity to develop self-study skills.

While the group emphasis of the study circle at first glance may seem inconsistent with notions of self-direction. Oliver states that historically in Sweden: "study circles encouraged self-directed learning and full participation, blending the intensive small group format with traditional

Swedish culture-particularly small-town life and the face-to-face conversations of friends and neighbors". Svensson notes that more than 2.5 million people are involved in Swedish study circles each year, with 1.5 million of these women.

While not quite as popular, another important Swedish form of individualized learning is correspondence study. The country has three such organizations: "one that is authorized to hold examinations for formal educational institutions, one that provides study materials that do not lead to any formal qualification, and one that provides agricultural correspondence materials". Nearly 20,000 people each year enroll in correspondence study.

In Norway, correspondence schools have long played a very important role in educating adults. In fact, Norway's Adult Education Act of 1976 was intended to influence learning throughout life and "should give the core ingredient for self-managed learning throughout the rest of life". Finland, too ; has several correspondence institutes that offers expert aid through study centres to assist individual students in their educational efforts.

United Kingdom

The United Kingdom is perhaps most well-known in the area of self-directed education for its pioneering work with the open university concept. There are also many other opportunities for the learner interested in independent study. For example, the number of adults studying by correspondence in the UK is estimated to "range from 500,000 to 750,000 a year".

Another imaginative attempt to foster independent learning took place at Malvern Hills College, the center for adult education in the rural English counties of Hereford and Worcester. Several adult students were having difficulty attending a regular college class. Thus, a Correspondence Tutition Service was established, to "provide individually oriented programmes of home study supported by personal tutorials". An initial diagnostic interview between a tutor and

the student, tutorial assistance with learning projects, and home study correspondence courses are some of the available resources.

Brookfield also describes his research, which examined the self-directed efforts of individuals not associated with any formal organization or institution. He chose twenty-five working-class individuals whose formal education had ended at age 16, and whose expertise stemmed from extensive study of, or involvement with, a hobby or personal-interest area. His research helped to advance earlier work, primarily in North America, related to learning projects. It also demonstrated that independent efforts to obtain mastery over some area of study can take place across a wide range of cultural and educational backgrounds. He concluded that many adult learners will look to other learners for information and support rather than to societies, organizations, and professional educators. He noted: "subjects would mention influential books and magazines but would preface these comments by declaring their 'real' source of information was their fellow enthusiasts".

Japan

Japan's progress in industrialization since the Second World War, coupled with its more recent emergence as a world leader in various ways, has prompted a variety of changes within the country. These range from a growth of pizza parlors and fast-food restaurants, to increasing disposable income for most people, and a constant contact with other nations. Such changes have also affected education in many ways, including the education of adults. As one example, open-university-type programs reach adults throughout the society.

The pressure to be part of a societal group remains, but subtle changes are taking place in education. A Japanese, Seiichiro Miura, who works with adult education activities, was interviewed about adult education in his country. He describes the change as follows:

One thing I might mention is the use of groups in adult education practice. I recognize the heavy emphasis in the United States on the self-directed learner. But from looking at human nature I suggest it is not easy for some to be self-directed. In Japan, we would organize a self-directed. In Japan, we would organize a self-directed group, kind of a mixture between group study. Subtle group pressure and a Japanese sensitivity to groups promote a kind of invisible network forcing you to be there, to participate even when you may be reluctant to attend. Thus, you sacrifice your individual desire to the group. I call this interdependent learning rather than independent learning.

Professor Miura was also asked how he would introduce learning contracts, frequently used in self-directed learning efforts, into the Japanese culture: "I will introduce the idea of the learning contract but it will be utilized within a group setting. I will need to introduce it slowly and find the ways it can work".

Thus, Japan appears to be in a transitional state where the sanctity of the group is being reevaluated in terms of individual needs and wishes. This may be most clear in adult education effort with older Japanese. Sekiguchi describes a 1981 Recommendation Paper by the Central Committee on Education. Among the Paper's recommendations is a call for the older person's self-education. As a method of study, "learning in a large group or in a classroom will not be adequate since there is a great difference between individual learners. Instead, individual learning methods are recommended as a more suitable way". Facilities such as libraries, museums, and similar institutions are suggested as organizations which need to play a more active role in meeting older adults' needs. Study courses on radio and television and correspondence courses are recommended as effective methods for the older person.

China

The changes that have taken place in China during late

1989 and on into the 1990s make it difficult to comprehend fully what the future holds. However, the last several years have been marked by some important changes relative to adult learning: "Since 1977, when the expansion and restructuring of adult education began after the Cultural Revolution, important changes have taken place in many sectors of adult education". For example, current radio and television delivery methods are patterned after Great Britain's Open University. The Chinese Television University was opened in 1979 and provides several degree opportunities. In fact, TVUs operate at the national and municipal levels. Televised instruction is also used at factory colleges, spare-time colleges, and regular universities. Municipal television universities and corresponding study centers in a variety of settings cooperate with centralized programming efforts. They serve some 800,000 registered students and many more casual viewers who 'do' do not enroll credit.

There are other forms of adult education in China that offer some opportunities for individualized learning. Correspondence courses are available, and individual tutoring is sometimes available. In 1980 factory universities set up correspondence courses that enrolled 240,000 students. Zhou reports that there are some 32,000 people enrolled in independent correspondence colleges, and another 150,000 students enrolled in 148 evening college correspondence divisions.

The "visiting teacher" program also offers opportunities for a learner to work individually after the teacher provides some initial assistance: "In this programme, literacy is taught by a teacher who visits the peasant, with home and labels common household objects the appropriate Chinese characters. The learner thus learns the characters as the items are used."

Indonesia

Traditional beliefs and expectations in Indonesia regarding learning have placed the instructor in a role as

authority figure. In fact, learners have not been given many opportunities to assess personal needs as a basis for learning. These learners also usually expect the teacher to be an authority on whatever subject matter is being discussed. Furthermore, they view experiential learning activities, such as using various community resources outside the classroom, as a waste of time. They would believe that such time could more appropriately be spent in the classroom listening to an instructor. However, increasing levels of education among the population and a better understanding of teaching approaches outside of Indonesia among educators are indicators that self-direction in learning is possible with appropriate modifications.

For example, one Indonesian educator studying adult education in the United States told one of the authors how he would apply various self-directed learning techniques in introducing family planning to community leaders when he returned home. During his initial contact with the leaders he would discuss the importance for the country of the content to be covered. He would also discuss with them their learning needs, based on their roles, tasks, and functions as community leaders. Because he would be viewed as the authority, he would come well prepared and make the initial presentation with the use of various audio-visual aids.

The participants would then complete a pre-designed, needs-assessment form, and come to some initial conclusions regarding personal needs. This educator would then lead a general discussion to determine needs, strengths, and weaknesses among the group. He would begin by listing learning needs on a chalk board or on poster paper, and ask participants to help him rank them. He would conclude with a summary of the needs, strengths, and weaknesses. Then a description sheet of the content areas that could be covered during subsequent session would be distributed and discussed. He would make every effort to accommodate the uncovered needs, but would be very specific in describing those content areas that he believed must be covered because

of official requirements of his own personal convictions, even if they did not match well with the rankings.

After that initial session, he would spend time putting together the plans for remaining sessions. This would include determining who would be responsible for various content areas, what learning aids would be needed, what teaching and learning technique would be used, and what arrangements were needed for outside resources or resource leaders. Passive learning activities would be expected, although small group discussion could be designed for occasional use. If any individualized or experiential learning activities were desired or necessary, special efforts would be needed to make clear the importance of such experiences. As evaluation in the form of testing would be the normal expectation, some efforts would also be needed to design the procedures and instruments.

Thus, some of the self-direction procedures described in this book would be possible, but the instructor or trainer would need to explain such procedures very carefully and help participants understand how they would enhance the learning. Cultural traditions and expectations regarding the role of the instructor do not rule out more individualized approaches, but adaptations based on an understanding of prior expectations of students and teacher roles would be required.

Even the small group discussion typically will center on questions posed by the instructor, although students feel they have some latitude in discussing areas beyond the instructor's question.

Experiential learning activities will be looked at by most learners and instructors as a waste of time. They fear that such activities will take time away from the instructor's lecturing. Although a few learners would thrive probably believe that an instructor using such approaches did not know the probably believe that an instructor using such approaches did not know the subject matter and was employing them to cover up for inadequacies. One Tanzanian adult educator studying

in the United States felt that back home his biggest hurdle would be the unwillingness of his university administrators and fellow teachers to accept teaching approaches that placed considerable responsibility on the learner

Another problem area revolves around evaluation and grading. Many of the current traditions of grading were inherited from the British, and the result is usually a highly structured process. For example, many teachers are expected or even required to give a certain number of lower grades. The Tanzanian adult educator mentioned above, who by the time of the interview had considerable experiences with self-directed learning in the classroom from his United States graduate training, felt that the use of a learning contract in his country would be problematic.

The above points suggest that the employment of self-directed learning principles in Tanzania would be difficult, at least initially, because of traditional expectations about education. However, one of the authors spent some time in Tanzania and observed some self-directed adult learning taking place at the village level. In fact, the country supports a national policy of "self-reliance," in which elected village leaders take on primary responsibility for local development.

The policy has worked only moderately well in some parts of the nation and not well at all in others.

Eastern Europe

In most Eastern European countries, a variety of independent study opportunities exist. Correspondence study seems to be quite popular for the learner who, out of preference or necessity, selects individualized approaches. Albanian workers are encouraged to educate themselves through various forms of education, including correspondence study. Correspondence is also one of the favored delivery methods for adult learning in Bulgaria and Poland. In Germany, correspondence education is recognized as equal in value to other forms of adult study: "Those who acquire education in this manner are offered

special facilities and encouragement, such as leave from work amounting to seventy-seven days per year while retaining the right to a full income". In Hungary, combining both correspondence study and evening courses, according to a 1975 study, "those who acquired a degree in this manner were 45.2% of the total number of people who received a university degree. In Rumania nearly 30 per cent of all adult students study either at evening school or through correspondence.

Yugoslavia is perhaps the most progressive of these countries. It has schools of self-guided learners, developed through federal legislation, and other institutions through which the individual learner uses various educational resources, such as cultural centres, museums, and libraries. The country also was among the first nations to provide special study on the conception of andragogy, including both graduate and undergraduate study.

Obviously, the events that have taken place throughout eastern Europe in the dawn of the 1990s will have an impact on the education of adults. While it is too early to speculate with any high degree of confidence, we believe that these changes signals potential for positive developments on the self-direction front. Only time will tell, through, what specific impact may take place.

The issue of wider access is but one of many driving forces putting the impact and process of higher education under scrutiny. The following kinds of questions are now the subject of frequent speculation and, more recently, research:

What are students learning and why?

- In what kinds of learning processes are they engaging?
- What is the quality of their experience?
- How effectively and efficiently are resources being deployed to develop the potential of new kinds of students?

- What kinds of qualities and competences are being developed and assessed, and for what purposes?
- To what extent do flexibility, openness and choice obtain with regard to learning strictures and opportunities?
- Do different kinds of students experience the education offer as 'relevant, useful and enabling'?

Are students being helped to 'learn how to learn', for a changing world in which social relations are more complex, professional authority and the effectiveness of traditional structures are being challenged, and knowledge and information increase at a rapid pace? In this chapter, students, an increasingly influential group of stakeholders but heretofore often invisible in such debates, consider the impact, process and structures of higher education. Their reflections on issues such as quality and responsiveness derive from their experience of having returned to academic learning programmes. The voices represented in this chapter come largely from those adults who are often at issue in access debates. The literature on adults as learners in higher and continuing education tends to reflect the experience of largely white middle-class adults, often North American, who as students or educators have experienced a great deal of previous formal education. In this, they may be similar to other younger adults who have spent most of their school years feeling like this, and who remain under-represented in British higher-education institutions.

The views represented here come from a multi-site qualitative research study. I have investigated the perspectives of adults who have returned to do some kind of higher or continuing education course after an interval of generally at least five years following the end of their initial learning, within and outside formal education, had a bearing on their expectations and experiences of returning to a formal learning context. Through largely individual depth interviews, supported by participant observation and group interviews and discussions, I enquired into meanings about

being a learner and learning during the course of these adults' lives in different kinds of situations within and outside formal education.

Broadly, 32 different kinds of learning situations provide the basis from which these adults reflect on their experiences as learners. Overall, 48 learners participated in the study over the course of 8 research cycles, each involving a different formal learning context. Twenty-three of the total 32 who were interviewed individually, and who therefore provided in-depth learning histories, left school with few or no qualification. Only 7 in the study had experienced higher education previously.

Thirty-seven in the study were women: 6 were blacks. Thirty identified themselves as clearly working class, 12 as clearly middle class with 3 unknown. 9 found it difficult to make a distinction, but of this group, felt more working class than middle class.

Six women were followed up, after they completed the diploma at Hillcroft College about which they were first interviewed, and had moved on to university or polytechnic degree courses. At the end of these second interviews, they had the opportunity to reflect upon the transcript of our previous meeting at which they had anticipated their experiences of higher education.

Disjunction and integration and the return to formal learning contexts

Disjunction refers generally to sense of feeling at odds with oneself, as a learner learning in a particular set of circumstances. It is not the result of a cause-and-effect relationship but rather emerges out of mutually interacting influences, as well as past and present experiences of being a learner in different kinds of learning contexts. A sense of disjunction can be felt to be associated with who one is, where one is, and how one's present experience as a learner relates to previous or concurrent experiences, within and outside the formal learning context. Disjunction can be associated with feelings of

alienation, anger, frustration and confusion. In this study it always refers to a sense of fragmentation and involves issues of both personal and social identity.

Disjunction sets up the potential for education and for miseducation depending upon mitigating circumstances from the past and in the current situation. When miseducation results, thus 'arresting or distorting the growth of further experience', the overall sense of identity as a learner can be fundamentally undermined. Certain kinds of social conditions can lead to the damaging effects of such an experience becoming internalized.

Alternatively, by chance, design or conscientious planning on the part of educators, disjunction can be constructively 'made sense of' and managed. This is especially true when various partners in the learning context become more responsible and accountable for what is occurring. This creates the possibility of future actions that can simultaneously compensate for, anticipate and manage disjunction.

There are, however academic learning situations that, by design, intent, or tradition, afford little or no possibility for individual or collective structured reflection on what it means to learn in that situation or on how the situation might be made more effective. The management of disjunction under such circumstances may be more challenging for some learners. The extent to which adults feel able and willing to cope with disjunction, and the concomitant feelings of isolation and lowered self-worth that can be generated, seems to be tied up with many factors. These include the influences of previous learning and presumptions about education at home and school; experiences of learning and being a learner as an adult within and outside higher education; one's self-concept and overall sense of self-esteem at that time in one's life; the quality of the support and relationships available within and outside the education situation, and the kinds of compensating experiences available at the time in the overall learning environment.

In this study, adults described experiences characterized by a sense of disjunction in relation to the following:

- their expectations of and their initial encounter with the formal learning context;
- the degree of continuity between the new learning experience and prior ones, both within and outside formal education;
- their experience of the assumptions and approaches operating with regard to teaching and learning, and the extent to which these hard with prior expectations and assumptions about learning, based on experiences elsewhere;
- the ways in which social differences and power relations were experienced and managed in the learning environment;
- the extent to which core aspects of their personal and social identity felt threatened or at risk in that environment;
- the management of multiple and often conflicting roles;
- the impact of contradictions between tutors' private and public stances; for critical reflection and analysis;
- the ways in which it was expected that knowledge and knowing could be legitimately explored in that learning situation;
- the nature of the dialogue, relationships and learning processes experienced in the formal learning context;
- the ways in which personal development and change were occurring;
- in spite of or because of what was occurring in a particular learning situation.

Integration as equilibrium

On the other hand, integration within this conceptual

formulation implies that one's sense of personal and social identity does not feel itself to be fundamentally at issue, of at risk, in a particular learning environment. Integration tends to be associated with a sense of equilibrium, or an 'all of a piece feeling'. Integration does not necessarily give rise to learning itself, but rather helps to create the conditions conducive to an individual learner being able and willing to learn in a particular learning situation. In other words, there is potential for benefit, and for education. Integration thus need not be associated with intensely positive feelings.

Integration as heightened self-validation

Integration can also refer to heightened feelings of self-validation, arising out of the extent to which a new situation compensated for prior experiences of disjunction elsewhere. Alternatively, it emerged as a resolution to disjunction involving some kind of invalidation of previously held beliefs, ideas or meanings. It is within this context that disjunction can be experienced as a constructive starting point for learning. The critical difference between the experience of disjunction as an enabling rather than a disabling experience lies in the kinds of values, purposes and relationships which obtain in the learning situation. A critical factor is the nature of the support available to guide the learner through the sense of confusion and fragmentation generated by the experience of disjunction and which enables him, or her to steer a path through it towards significant learning and change. In this study, such situation tended to be characterized by the adults concerned as feeling valued for who they were as people, and for their prior experience. Learning entailed active involvement and interrelating. Conditions associated with cycles of disjunction and integration, and indeed an overall sense of integration itself in connection with academic learning programmes, included the following.

The active used and appreciation of different forms of knowledge, the making of connection across disciplinary boundaries, and a positive valuing and use of personal and social differences within a group. For many learners in this

study, to experience learning situations characterized by such conditions and an overall sense of integration, often served to repair severely damaged confidence and self-esteem, and to compensate for prior experiences of education.

Compensating influences

Alternatively, a relationship with a particular tutor could positively mediate an overall sense of disjunction with regard to that course or learning context as a whole. Others found that experiences of disjunction on a course could be positively mediated by prior experiences in which confidence had been built, and self-esteem with regard to one's learner identity and potentiality began to develop. Relationships with peers and spouses also played a vital role in enabling learners to make sense of and manage experiences of disjunction. None the less, many of the learners in this study seemed to have required repeated experiences of integration to enable them to feel sufficiently resilient and able to withstand and indeed manage forces which could otherwise damage them. Even then, the path of the development of such resilience and confidence was by no means linear. Certain situations could spiral the learner back into feeling the scars of prior experiences, although in this study no one experienced the feeling of going back to 'square one': earlier experiences that had given rise to a sense of integration had created an internal store upon which to draw when necessary. To survive, and thrive, in academic contexts, however, it seemed that some of these experiences needed to have occurred within formal education.

Imagining: experiencing learning as 'all of a piece'

It would be well beyond the scope of a single chapter to illustrate the many ways in which the concepts of disjunction and integration are grounded in the data. Here, however, I shall draw upon a specific block of material from the study, which was generated in one of two ways. During the course of the initial research cycles, would often ask participants directly about what they wanted and needed from teachers in higher and continuing education. In later cycles of the study,

however, I began to use a role-play approach to get at these needs from another angle. I would ask participants to imagine that just finished my thesis was an expert in a particular subject, and that my first teaching job was with adults such as themselves, many of whom had left school with qualifications and had been away from education for some time. I suggested they advise me as to how I might best approach this challenge, basing their advice on their own experience as a learner in higher education.

Each of these approaches involved participants in a particular kind of imagining process in relation to their needs and previous expectations. In undertaking it, they teased out the kinds of learning situations and relationships that they saw as conducive to integration and thus to the possibility of education rather than mis-education. The role-play approach, especially, helped to draw out issues which most mattered to these adults if they were to feel willing and able to learn in academic learning situations.

The following main themes emerged from the data elicited by these two techniques: the notion of personal stance in teaching and learning; recognizing and respecting differences; 'unlearning to not speak'; the role of relationship in mediating disjunction; and 'learning-in-relation'. Each of these is dealt with below, illustrating from a particular angle various aspects to the disjunction-integration formulation.

The notion of personal stance in teaching and learning

We often speak about teaching and learning as if they were simply a function of subject expertise, skill and method. These adults' accounts, however, illustrate the extent to which for them, the quality of teaching, and indeed of learning, is mediated by the 'personal stance' of the teacher. I used this term in the sense of Salmon who suggests that 'the material of learning has traditionally been viewed in different terms from those that define the learner'. For Salmon, the metaphor of personal stance lay emphasis on the personal positions of

teachers and learners, and how they give meaning to their learning:

How we place ourselves, within any learning context, whether formal or informal, is fundamental. This is not just a matter of 'attitude', in so far as it defines our own engagement with the material; it represents the very stuff of learning itself...how we position ourselves towards [each other] in any educational setting... is what governs the limits and possibilities of our engagement together, what shapes and defines the material we construct out of that engagement.

In the accounts which follow, these adults' perceptions and experiences of teachers' personal stances towards them as adult learners are seen as vital to their feeling able to enter into the possibility of education.

For example, Gaynor was a working-class woman in her mid-fifties who returned to do an academic diploma which would enable her to go on to a degree course. She had worked largely inside her home for many years and had little confidence and low self-esteem when she entered Hillcroft College. Speaking within the context of the role-play described above, she implores me to remember what it is like to have no knowledge of that subject at all.

Rhodam, long unemployed and with little sense of self-esteem or direction, stresses the negative impact of tutors who position themselves towards their material, rather than towards the student. She is describing here the extent to which she had felt progressively silenced by what she had experienced from certain tutors.

Rhods: They have to be hearing what they have to say. I constantly get interruptions which makes me feel, 'Should I be here?'... And they are always so busy. I always feel I'm taking up his time.

SWW: What about attitudes?

Rhods: I always have the feeling with my tutor that he's

'in the know'. He does most of the talking. He should be more laid back and draw me out more.

Frank was a lower working-class man and previously a labourer who read 12-15 books a week, across at least six subject areas. He re-encountered a former teacheress whose previous attempts to encourage him at school had been 'too little too late'. She persuaded him to return as a mature student to an FE college to do O-levels. He did A-levels there also and, after an interval, went on to a polytechnic course. He had, however, consistently encountered structural and attitudinal barriers in his attempts to engage with formal learning contexts. He felt that, during those years of struggle, it was only in political groups that he was able to find the intellectual stimulation and dialogue that he actively craved. Here, he too emphasizes the importance of a personal and social dimension in his interactions with teachers. Unlike many of the women in the above accounts and those that follow, however, he communicates a certain resilience and autonomy in his expressed wish for confrontation and challenge.

Frank: Their responsibility is to point out the central core of the basic theory, to confront you as an individual. You can then decide if you agree or not ... But they must draw people out. Reach for their potential. Help you to engage with central theory. It is an interactive relationship. This requires knowledge, skills and personal qualities. Also, they must be sensitive to personal problems because these will distort the learning process.

SWW: What skills?

Frank: An intellectual grasp. A degree of lucidity with which they can explain. Must be evaluated on the extent to which they can facilitate people's interest in and ability to deal with knowledge and their capacity incorporate within the learning situation the views of the students. Especially the older ones. Which may be in direct contradiction and which may not be supported with six million academic references, but practical experience.

Fran was a working-class woman who throughout her initial schooling aimed to be a hairdresser. She eventually became a lecturer and teacher in this field, to the amazement of her family, since they had always seen her sister as the 'academic one' and Fran as the 'practical one'. The ways Fran strived to use her intelligence and creativity in each work situation, however, often seemed to put her at odds with colleagues. One summer, after she had left an unsatisfactory work situation, by chance she came upon information about the local polytechnic's willingness to accept adults without A-levels. She enquired, out of curiosity, and was offered a place. She describes running all the way home, in panic and disbelief. She spent the entire summer trying to persuade officials that, if they were willing to give her a grant to study for three years, they could give her one-third that money to set up her own business as a hairdresser. Failing in this, she began at the local polytechnic in the autumn.

Fran speaks about the need for someone 'with communication skills, and for tutors who can 'break into a language that you can understand.'

Fran: I could understand what they were saying it would be lovely. They need to talk to me and explain it to me. I would expect them to be positive and encouraging. Usually, if you ask a question, you end up with a negative ... They don't use a reinforcing way of learning. They just sit there and rub up their own ego... One thing they need to know is how to be a teacher. That's the one thing they don't know.

SWW: What does that mean to you?

Fran: If I have to sit and take notes for an hour, which is far too long, I need something that is constructed in a same pattern. So when I read my notes afterwards, they make sense to me... They ought to be able to use experience, and break into the lecture, without feeling you are taking them off at a tangent... They can't convey what they know... They don't connect it with anybody else's subject matter.

Recognizing and respecting differences

Adults in the study continually spoke about the importance of being acknowledged and respected for their differences. The interview questions constantly revealed ways in which a failure-in actions, not just words-to recognize and respect their differences could prove a source of disjunction.

Connie was a middle-class woman who had worked entirely inside her home and had taken primary responsibility for parenting. She reached a point where she bought an IQ book, because she felt no better than a 'cabbage'. She returned to higher education via an FE college that catered particularly for mature women returners. This experience had been characterized largely by integration; with continual discovery and challenge emerging out of the quality of the relationships with peers and tutors. She found her transition to the polytechnic unsettling in many ways. Here she emphasizes the effect of different kinds of personal stances of tutors upon her as a learner. In particular, she highlights a confusion she elaborates in other parts of our interview: namely, that tutors are adult learners too, and therefore how can they not understand differences? She speaks about the need for tutors to remember that they too are mature students and to use that as a way of relating to mature students. They come with experience. How they see us affects how they interact. They must be helped to see that, 'If you're motivated, you'll get it.' Your pressures are seen as a testing ground. For example, 'You'll be a good rather than realizing the pressures you are under. I wouldn't want the structure and the knowledge to be changed. Just to have more time, and more emphasis on motivation. But sometimes, I just cannot cope. There must be a positive discrimination towards older people.

Todd, a working-class man, had struggled all through initial schooling, feeling out of place in terms of his artists interests. Throughout his education he had felt pressured to be someone he was not, symbolized by the efforts of teachers to turn him from left-handedness to righthandedness. He left school with no qualification and went to work in the markets.

Before returning to do a degree, he had been both unemployed and a musician, having discovered a relationship with another musician through which he could develop these interests and talents. Here he elaborates on the differences cited by Connie and, like her, stresses the pressures on him in terms of the complexity of his life: in this case, as a musician, as a parent, as one of many in this situation who were not well-heeled financially, and who had anything but the prior learning and life histories of more traditional students. He asserts the need for tutors to recognize:

That we're not just students. We have an outside life too. We suffer the same problems. We're not purely a brain. We're human beings. That's the way it is with normal education. It's not right. But they think they can group us in a lump. Shows a lack of responsibility. Here, they still teach you like you were secondary school. It's the same process: socialize, work, see tutor. But they must know about people like when they are starting to flag. Like this guy who was living in a squat and had to take casual work for four weeks. They have to have skills of working with people: diverse people. People who were delinquent, mentally ill. It's not so much they are misfits. There are lots of really clever people. It's just that they should not be treated as if they were academics...No one here has asked me what I am going to do, much less what I have done.

Recognizing differences for a number in the study also meant recognizing previous damage and actively repairing confidence, particularly in the case of women. Sally is another working-class woman who experienced redundancy and separation before her return to study at Hillcroft. Initial education for her had been fraught with one trauma after another. Here she speaks out of her experience of returning to formal education in a women's college where small groups were a key feature of the learning environment. She stresses the importance of recognizing differences in women's pacing and patterning in group dialogue. Once again, the

relational aspect of teaching and learning emerges as a central feature:

I think that is one of the pivots of adult education. Don't have too big a group. They will be overawed. If so, some will be quite vocal. You must use them, take their ideas, but don't let them overawe the others. Encourage those who are quiet. You've got to encourage people to speak, those who are quiet. Don't bully or say, 'What do you think?' I would need time to think about that, but I am sure that there are subtle ways in which you can include people in small group discussion. But the women I know, the women are quite enthusiastic. But the more they get to know you, the more they will open up. I think they are also very afraid of examination situations and formal learning and they have to be very gently introduced to this.

Unlearning to not speak

Sally experienced considerable disjunction arising from the contrast between her experiences at Hillcroft, and her university science-based course. In the latter context, she felt an acute sense of fragmentation with regard to the treatment of the discipline, the process of learning, and the underlying assumption about knowledge and research operating in that environment. Although there was an essential coherence across the latter three, it none the less made Sally feel fundamentally at odds with herself and that environment. The disjunction and subsequent anxiety generated by this situation focused her attention on whether and how she could cope, at the expense of academic achievement. Here she describes the other kinds of forces that can diminish or enhance resilience in a learning situation. She reinforces the findings of previous research that women often return to higher or continuing education at a time of trauma or transition in their lives. Here she speaks again about the need to 'repair confidence'. Her conviction indicates how much she too had spiralled back into self-doubt in her new learning situation:

I have realized, being at university, young people nowadays are much more confident, but when women get to my age and are returning to learning, usually and not always, it is for a good reason. They've lost their husband through divorce or illness, and they have suffered some kind of traumatic experience and need to make a living and they are very very traumatized. In a delicate state. The only way you can describe it is that. And they need not have only the ability to learn, but their confidence building. They need to be able to talk about their worries and fears and they need, perhaps, extra time given to them, because they might find it harder to learn after a big gap.

For Sally, integration entails being actively engaged in a learning process which involves actively relating to others, building on their contributions, and gently nurturing confidence. However, she and others often referred to the ways in which they could feel silenced by an intervention, often male—although few conceptualized it in gender terms, and virtually none in feminist terms. But the sense conveyed is that of feeling 'stopped in one's tracks'. Often accounts of such situations awoke memories of being negatively reinforced for being assertive and speaking with conviction. Such forces had taken their toll on women's sense of self-worth and of possibility as a learner.

Karen is a working class woman who had worked largely in secretarial jobs, and had eventually found her way to Hillcroft. She implies how easily tutors can, even unintentionally, abuse their power to the detriment of the learner. Later, at university Karen experienced considerable disjunction in the form of a major writing block on a humanities course. Although the method of teaching was largely in small groups, she felt severely silenced by certain attitudes and stances on the part of some male tutors and later a male counsellor. Here, speaking from the perspective of Hillcroft, before moving into this learning situation, she talks about the need for tutors to approach people, 'on a one-to-one basis, a personal basis, not as teacher-pupil:

SWW: What would I need to know about people?

Karen: To be able to assess personalities. To know who can take harsh criticism and the people who need drawing out more. To know the things that draw them out. Know people's names. That sounds silly, but if you call people by their names, you get this sort of bridge. But the main thing is to treat people as an adult, rather than teacher-pupil... Don't be too harsh in your criticism in certain situations. Not to be patronizing, but put yourself in their position. These women have gone through the same situations as you have. You should approach them on an equal footing, although you are 'imparting the knowledge'. You're sharing it, not dictating it.

Godfrey and Janice also consider the kinds of learning situations that promote their development and learning to fuller potential. For them, issues of personal and social identity, and the experience of differences, are central to the possibilities of education or miseducation. In their learning situation, and in the wider world, the majority group wields a great deal of power and control over opportunity for them and other black people.

Godfrey's description contrasts to some extent with the accounts of the women above, in the sense in which he stresses his autonomy and strength in the face of adversity. None the less, he conveys how a respect for differences and a recognition of the complex social arena within which learning is taking place can be fundamentally at issue for some adult learners. As such he elaborates themes introduced above. Here, in the context of a group interview, he and Janice talk about what they need to feel able and willing to learn. They describe what they experience when they learn with other black people in comparison with how it feels in an academic situation, where different kinds of judgement and power are operating, especially when they are in a room full of white people.

Godfrey: When I am challenged and criticized by

anyone, I feel every part of me is learning. When cornered, for example, on a platform, giving a speech, I am all angry and aggressive when I'm at my height. If I'm in a group of people and everyone's against me, I learn most. When I must change my self and assimilate what I've learned. Give different interpretations to things. Why, I enjoy people not agreeing with me. Find it beneficial, useful.

SWW: Does it matter who the person is?

Godfrey: I never feel comfortable in a room full of whites. Never relaxed. Always on guard. Automatic. Immune to it. Unconscious. I speak in a particular manner. More passive in the way I present myself. Not if in a group of black people. More relaxed. It's me! Can curse, do anything. Like when you're angry, revert to your past experience. To learn fully, to be total, must be amongst black people.

Janice: Certainly think you have to be on guard when you are with. Depends on position, authority. Must think of that. Must infringe on you as a person, depending on the group you are in...

Godfrey: I need respect in my environment for me to learn. Plus a stable psychology!

Janice: I feel much more relaxed with a black community group. Because they are, constantly raising other people's consciousness.

Godfrey: Also, at these times, when black people challenge you with something. But if they challenge you, that is your view and this is my view. Just leave it. No dreve, no push, no encouragement to continue ongoing dialogue. With group of black people, if someone says, black people are inferior to white, you will argue, say, 'No, no, no.' But in terms of their point of view, will read about it to see where they are coming from. But if white person, will ignore it.

In this account, they engage centrally with dimensions of

learning that are at the heart of disjunction and integration. They speak about 'to feel total', 'to learn fully', 'you as a person', 'It's me'. They convey the extent to which a certain sense of integration in their personal and social identity must be felt, in a context of constructive support and challenge. They talk about needing 'a stable psychology' in order to derive maximum benefit from a learning situation. Here they suggest the extent to which they have felt it necessary to always be 'on guard' in the learning situation.

Godfrey and Janice experienced a great deal of disjunction of their course, but this was mediated by a number of influences: their opportunities to Reflect on their experiences with other black people, both within and outside that learning situation; their relationship with some significant-other peers on their course who could help them to keep in perspective what they were experiencing; their determination to get the piece of paper and more power, whereby they could influence the situation of other black people; and finally, the extent to which at the end of their course, tutors began to engage with them in a constructive process of reflection and showed themselves to be valuing actively the perspectives and experiences they brought to the course. Both were involved in advising on issues of process and curriculum, in order to enhance possibilities for education, rather than miseducation.

In these accounts, from those who, not just in terms of age, but also in terms of gender, class and race, have traditionally been under-represented in higher and continuing education, the complexities and struggles in 'unlearning not to speak' become manifest. The possibilities for experience of disjunction, rather than integration, for miseducation, not education, become clearer.

Mediating disjunction

The possibilities for disjunction can be significantly heightened when some of the sources of disjunction remain invisible to, or are actively denied by, tutors. Ethel is

another working-class woman who never associated learning with school. She, like many others in the study, found herself on a course at her local polytechnic more as the result of chance rather than design. She experienced considerable disjunction throughout her course, particularly with regard to the emphasis placed on what she regarded as 'knowledge for knowledge's sake' and the extent to which she experienced higher education as an arena where 'they are playing intellectual ping-pong with other people's ideas' rather than creating, originating. Her project work created a kind of oasis for integration, thus playing a significant role in compensating for the disjunction she was experiencing overall: 'My only original work on this course was my research, I loved that.. From June to March I worked non-stop.' A particular tutor also played a key role in enabling her to manage what she was experiencing.

She acknowledges the personal and institutional power that tutors have, and the extent to which this can feel enhanced by the ways in which they choose to use their intelligence. Her account suggests the potentially destructive impact of such power when, for example, the norms of a course, department or institution favour attack and competitive argument as the primary means for 'building people up' intellectually. Alternatively, as in the case of Godfrey or Janice above, such different kinds of power can also combine with social power, something that was at issue for many on the course - particularly when they were confronted with learning situations where there were few people with whom they could socially identify, amongst their peers of the staff.

Learning in relation

Women's voices predominate in this study, and in their accounts there seem to be fundamental assumptions about learning that can be at odds with the kinds of assumptions about knowledge or teaching and learning that can predominate in academic learning environments. The themes of 'learning in relation' and learning as a process of making connections recur again and again. For many adults in the

study, there seemed to be a vital need to make connections: with one's life, with other disciplines, with issues that personally mattered and with experience that was both, prior to and had also emerged out of that course.

For example, Fran talked about how, in her experience, don't connect with anybody else's. For Fran, subject matter is as much 'in her' and in her exas it is in books or in academics' heads. There is nothing in her experience that has taught her to discriminate between these forms of knowledge, or to elevate one form above another. To deny the validity of her forms was to deny the validity of her personal and social identity, and her prior experiences of learning particularly outside formal education.

Sally speaks here also from the context of her university course where as a result of the disjunction she was experiencing she has a heightened sense of the kinds of conditions in which the probability of integration, and therefore of education, is increased:

I think that one of the first things I would say to a student is that everything connects. I had no idea until I came here... So if I were a lecturer here, I would ask others what they were teaching so I could make the connections in my mind and then put it over to the students. Because that is one of the things that amazed me. That no subject is an island. All interconnect and interrelate. And same with the students: they all interconnect and react with each other and need to bounce ideas off each other.

The theme of interweaving - across ideas, subject boundaries and in the context of one's relationships with peers and tutors - is vivid here.

For many of the women, not to learn in relation, and in ways that enabled them to work from and build upon their existing strengths and understandings, was to put at risk a fragile sense of self-esteem. Those kinds of conditions seemed to nurture trust in one's own voice, without feeling that powerful forces would intervene either to silence that voice,

tell it it was wrong, or revive the feeling that to speak, to write, to create and have access to knowledge in higher education was not really for 'the likes of them'.

Conclusion

Adult learners do not bring their experience with them into education; they are their experience. But the answers to the real complexities and challenges of this idea do not seem to lie simply in modular programmes, access courses, distance-or open-learning initiatives, experiential learning or andragogy. They lie in much finer nuances of expressing respect, concern and care for individuals, and in giving priority to the need for adults to build upon and make sense of their experiences within the context of their own and others' 'life worlds'.

Issues crucial to wider access—such as impact and process, boundaries and partnerships and institutional structures—gain in meaning when they are examined from the perspective of learners who, in their bones, can feel the interrelatedness of these dimensions to their experience of learning in higher and continuing education. Moreover, probably better than any of us they can see if and when the Emperor has no clothes.

People may find it hard to accept that their personal models are not the world as it is but are constructed realities and they are not soundly based in absolute truths. When faced with the challenge of, people may be unwilling to accept the responsibility which goes along with the acknowledgement that it is they that construct their own world views. For many, it is more acceptable to believe that their worlds are imposed upon them by the way things really are.

These adults present us with the opportunity to raise fundamental questions about quality and responsiveness from perspectives entirely different from those that usually figure in such debates. For example, to what extent and why do we feel able to assure new kinds of learners of the possibility of

education, not mis-education? How do we know if we offer to new kinds of students an education that enables, rather than compounds, previous disabling forces: What more do we need to do and which of our many strengths do we most need to build upon?

In these adults' stories, we find the clues as to the kinds of issues we need to address if we are to ensure that wider access remains concerned with more and different students and quality for all. By reframing the problems, and by exploring alternative solutions, we may very well create new kinds of pathways to enable those of us in higher education to more with integrity and greater clarity through what may now seem only a tangled thicket of demands from too many stakeholders. And in so doing, many other adults may approach our doorways, confident that here we do not just imagine the future, but here the future is lived.

Vocational Education

Through the ages man has worked for his livelihood, has learned through accumulated experiences how to face and control natural forces and how to live within the limited physical resources for the good of all. All this mass of rich human experience achieved through work has stimulated man to seek means and methods of increasing his efficiency in work. As a result, the method of learning through organised experiences has come into use. Apprenticeship or training under guild organisation originated during ancient times and continued during the middle ages, was among the first forms of organised learning. The vocational institute or school, which is relatively of recent origin, is a modern example of institutionalized learning to work through consciously organised instruction.

Since the beginning of time occupational knowledge and manual skill have, in one form or another, been transmitted from man to man and from generation to generation. This transmitting process, whatever its form of organisation, has developed into the educational process that has now given rise to expansions and developments of what may be termed as vocational education. The diffusion of the occupational knowledge and the transmittal of the manipulative skill, underlying occupations and callings of man, may be interpreted as the forerunner of the various concepts of vocational education. In this broad sense, vocational

education becomes that part of the total experience whereby man learns to carry on a gainful occupation proficiently and efficiently. The term "vocational education" as used in this broad sense is meant to cover both unorganised and organised methods of transmitting knowledge, skills and competences.

The age-old methods of learning on the job with no or little assistance and supervision is the unorganised form, while specific vocational education through the institutionalised process is the organised form. In a strictly utilitarian sense, "vocational education or training implies a series of organised and controlled learning experiences used to educate or train any person or persons for a given employment". The instructing process is organised to the extent the instructional objectives are clearly defined and understood and the instructor knows exactly what knowledge and skill it his duty to impart most effectively.

Through the ages, however, there has been but one way for the unskilled worker to learn to do his work, namely, the "pick up" method, in which observation, imitation and individual initiative constitute the sole means of training. It is only in the recent years that any serious attention is given to the training of unskilled worker to do his tasks efficiently. The unprecedented developments in science and technology have tended to expand vocational areas for which organised education or training is required. Vocational education and training has thus become both a consequence and a cause of progress.

Vocational education : concepts and meanings

There are several differing concepts and meanings of vocational education or training. Most of these have arisen from traditional practices and the meaning of terms used and their implications. An examination of these will reveal the basic differences for certain practices and relationships in vocational or occupational education, which are fundamental in nature and in programmes.

One such concept is that vocational education is the education or training of workers. Its origin may be traced to the early apprenticeship training practices. This concept implies that any kind of education or training in which a worker participates is vocational education. It also suggests that humans have dissimilar abilities and the persons having neither the capacity nor the desire to study the traditional curriculum be prevailed upon to opt for vocational trades more adapted to their taste and abilities. Implicit in the concept is the meaning that working class children be trained for factory work simply because that is their destiny. This kind of thinking does not fit in with the principle of equal educational opportunity.

Another concept is that vocational education is the education for manual work. This concept centres on the ideas of ability to work with hands rather than mind – with a curriculum of certain manual activities like leather work, wood work, metal work, drawing work, for example. The knowledge and skills learned from such education or training just underlie mental activities relevant to the curriculum but without relevance to specific occupational competence. This concept has resulted in the present-day practice of placing drop-outs, physically handicapped and socially disadvantaged young people in vocational courses without considering learners' interest and ability. A sizeable proportion of vocational institutions (other than I.T.Is.) in our country many perhaps be described as manual training institutions.

Yet another concept is that vocational education is education in certain specified subjects, which may be of vocational or technical nature, generally confined to secondary stage of education. This concept implies that a specified part of the curriculum is vocational or technical, the remaining part falling under general or liberal education coverage. Here vocational education is not designed to take the place of general education but to supplement it. The essential merit of the idea is that the total education imparted

has both cultural and utility values fitting an individual for progressing in his chosen field of activity with in-built opportunity for vertical mobility. Technical high school type of education in our country is the example.

One more concept is that vocational education is that education which is craft-oriented. The major objective of craft-oriented education or training is to aid learners in greatest work efficiency possible in earning their living by providing special instruction in single crafts or trades. The education or training given in this manner lacks academic or cultural aspects of education. Educators, therefore, feel that any craft or trade-centered system of education or training is a divisioning process, segregating vocational education from general education mainstream. The learners that are unable to profit from the traditional academic learning generally opt for this sort of industrial training, as is given in our I.T.Is. Although the institutions are equipped to offer practical preparation for most of the recognised trades, the courses are not in accord with the objectives of a mass system of common or comprehensive schools as in vogue in U.K., U.S.A. and Japan.

Finally, there is the concept that vocational education is education for productive purposes or socially useful productive work. When the object is a product or a service for consumer use, the work involved is termed as productive work or socially useful productive work. Implicit in this modern concept is the meaning that as the individual seeks and finds new and improved ways of working through education or training, he increases his vocational efficiency. Gainful pursuits, regular occupations or vocations are becoming increasingly important in our industrialised society. Vocational education for productive work basically provides learning experience of an avocational nature, training learners to fit the requirements of a hierarchical work force. This concept is in accord with the present-day movement of "education for individual needs", education with the purpose "to prepare persons who would contribute to industrial,

agricultural and commercial efficiency". This concept also leads to the theme that "all education, when considered in relation to the great masses of the peoples of a country, must be measured finally by the single test of usefulness and utility". Education imparted in this manner should aim at the development of proficient workers as well as good-citizens.

These concepts and definitions of vocational education reveal varying interpretations, meanings and purposes. A review of the development of vocational education and the literature associated with it points to the fact that such variations exist and come about as a result of the history and development of a country and many diverging opinions arising in determining the ways and means of the education system fitting in with the mores and traditions of the societies it constitutes.

Viewed in the historical perspective, the development of vocational education or training has taken place through the following successive stage : (i) individual initiative and resourcefulness; (ii) unconscious absorption and imitation; (iii) conscious imitation and organised training in the home; (iv) conscious and organised training through exclusive apprenticeship or guild system practices; (v) pick-up learning under specialisation; and (vi) organised training through such means as vocational or occupational institutions and modernised apprenticeship under training-in-industry process. Within recent years the progress of science and technology has called increasingly for the systematic organised training of skilled personnel to man great numbers of new jobs and many old jobs with profoundly modified process. Operations once performed manually are now largely performed through machines, thus the emphasis in training shifting from the acquisition of manipulative skill to the acquisition of technical knowledge intelligently on the job or the activities associated with it. This fact has led to the central idea of organising education systematically and efficiently through the establishment of vocational institutions and modernised training at work places.

To-day, as always, the instructional process is said to be conscious and organised to the extent the methods in transmitting knowledge and skills are well-organised both pedagogically and administratively. In terms of pedagogical details, the methods of instructions as practised in institutions may be better organised than those followed in training establishments of industry. But the institutional system suffers from the weakness of its inability to secure and use participating experiences as subject-matter for training. On the other hand, the training given by the shop or offices is likely to be less pedagogically oriented – with the emphasis given to the training more adapted to the needs and the occupational psychology of the learner. Viewed from the directness of aim, the recognition of group characteristics and the use of the real experience as an instruction device, training-in-industry is regarded as an effectively successful vocational instruction system.

General principles of vocational education

Principles of vocational education serve a useful purpose in the delineation of policies, processes and procedures underlying vocational education. Principles of vocational education are derived from past experiences and judgments that have proved to be satisfactory and effective. Principles growing out of the deliberations and general agreement among individuals and bodies interested in and concerned with vocational education find incorporation in the basic vocational education laws.

The general principles of vocational education are delineated below. They are established principally on the basis of rich experience and judgment of the late Dr. Charles, a leader in vocational education in the U.S.A. He was the first director of the Federal Board for Vocational Education in U.S.A. Dr. Charles was acknowledged as a great authority on vocational education in his life time. Truly, the principles of vocational education enunciated here have stood the test of time and they are as valid now as ever before.

1. Vocational education will be efficient in proportion as the environment in which the learner is trained is a replica of the environment in which he must subsequently work.
2. Effective vocational education can only be given where the training jobs are carried out in the same way with the same operations, the same tools and the same machines as in the occupation itself.
3. Vocational education will be effective in proportion as it trains the individual directly and specifically in the thinking habits and the manipulative habits required in the occupation itself.
4. Vocational education will be effective in proportion as it enables each individual to capitalise upon his interest, aptitudes and intrinsic intelligence to the highest possible degree.
5. Effective vocational education for any profession, calling, trade, occupation or job can only be given to the selective group of individuals who need it, and can profit by it.
6. Vocational education will be effective in proportion as the specific training experiences for forming right habits of doing and thinking are repeated to the point that these habits become fixed to the degree necessary for gainful employment.
7. Vocational education will be effective in proportion as the instructor has had successful experience in the application of knowledge and skills to the operations and processes he undertakes to teach.
8. For every occupation there is a minimum of productive ability which an individual must possess in order to secure or retain employment in that occupation. If vocational education is not carried to that point with that individual, it is neither personally or socially effective.
9. Vocational education must recognise the conditions as they are and must train individuals to meet the demands

of the labour market even though it may be true that more efficient ways of conducting the occupation may be known and that better working conditions are rightly desirable.

10. For every occupation there is a body of content which is peculiar to that occupation and which practically has no functioning value in any other occupation.
11. Vocational education will render efficient social service in proportion as it meets the specific training needs of any group at the time they need it, and in such a way that they can most effectively profit by the instruction.
12. Vocational education will be socially efficient in production as in its personal relations with learners it takes into consideration the particular characteristics of any particular group which it serves.
13. The administration of vocational education will be efficient in proportion as it is elastic and fluid rather than rigid and standardized.
14. While every reasonable effort should be made to reduce per capita cost, there is a minimum below which effective vocational education cannot be given, and if the course does not permit this minimum of per capita cost, vocational education cannot be attempted.

Vocational education—involving the institution, the home, and the industry or business—frequently evolves processes and procedures different from those of general education. This fact makes it necessary to understand the importance of the principles presented above.

Vocational education versus general education

The term general education is used to mean the education that should prepare persons to live more intelligently as citizens and to understand and enjoy life. To that end, general education implies the knowledge, skills and attitudes needed by persons for successful and purposeful living.

The term vocational education is used to mean the education that should prepare persons to work more efficiently. Efficient vocational education implies specific education and training in the usable knowledge, skills and competencies for the occupation in question.

However, different concepts of the relationship of general education and vocational education are there. Mostly they arise from differences in educational philosophy. Some educationists and administrators contend that a general or fundamental content is the best preparation for a vocation. They advocate that courses in such areas as general agriculture, domestic science and general business provide appropriate education or training for both general and vocational needs and be included in the general education subjects. However, vocational educators differ on the point that courses designed this way do not provide education for the specific competencies needed in preparing for a vocation. These educators contend that courses of a specific nature as well as those of a general nature are needed in education of workers. In a democratic system of education, they believe, every citizen should have the opportunity, as part of his training, for both types of education.

In the present-day situation, general education and vocational education are major divisions of the total education process. Each of them is of equal importance, and both of them are necessary in the education of workers. This suggests that general education and vocational education have much to contribute to each other and to the total education process. Both general and vocational educators should, therefore, strive to achieve the proper co-ordination of these two divisions of education within the total education process.

Polyvalent education

The modern trends are to avoid multiple-streams at the school stage of education. Dividing education in water-tight compartments of general education and vocational education,

and thus segregating the students at an early age, is rather unsound and unfair educationally. It would be unwise for students nearly at the age of fourteen or so to opt for a vocational education or training course with a seemingly doubtful career development and prospective future. However, if they are offered a common or comprehensive system of school education bivalent in character and content, that is, a combination of general academic subjects and vocational subjects, such an arrangement could not only provide academic learning but also learning experiences for some vocation. A scheme of education of this kind organised under one shelter – increasingly adopted in U.K., U.S.A. and Japan – tends to promote employability of students and also help them develop their understanding and practical sense so useful in all walks of life. In a broad-based polyvalent education system with multi-options strategy, students get acquainted with academic knowledge, information and practice of several trades or subjects which all stand them in good stead in any occupation. With such a comprehensive organisation, vocational diversification at a young age is dispensed with. Rigid bifurcation too early in student life tends to stratify personal development and retard progressive outlook of young people. Uniformly organised secondary education without a vocational or occupational education component or any options within the choice of subjects, is an unintegrated system of education, and is thus out of tune with the current thinking and practice.

However, in circumstances where sufficiently intensive vocational education or training cannot be built in the secondary education system, as is mostly the case in our country, vocational bifurcation or diversification has inevitably to be accepted. Yet, wherever feasible, efforts should not be spared to include vocational bias in the mainstream of general education as it would satisfy an important requirement of complete education, that is, preparing a young person in education essentially with his own effort and choice, directed towards individual growth combined with satisfying the needs of the modern society.

Such education becomes realistic and useful.

The Education Commission too visualised the future trend of school education to be towards a fruitful mingling of general education and vocational education – general education containing some elements of vocational and technical education, and vocational education, in turn, having an element of general education. The Commission did not favour a complete separation between general education and vocational education.

Further or extension education

It is not possible to give learners a ready-made complete package of knowledge and skills for life at any one time or period. In the modern context, workers are continually in need of adaptation, readaptation to changing demands and exigency of situation, and are therefore constantly required to face renewal of knowledge and skills. The sweeping changes in products, processes and techniques arising from scientific and technological discoveries and innovations result in far-reaching change in training policies, methods and standards required to meet the new exacting demands. This calls for organised systematic ways to train and retrain workers for a wide variety of occupations, spread over large geographical areas, equipped with higher and newer grades of occupational knowledge and skills. As efficiency in the use of human effort progress, as sub-division of operations and tasks lead more to specialisation of jobs, as the scale of production increases, the occupations tend to become less general and more specific. This leads to demands for knowledge, skills and competences that are immediate, direct and specialised.

In the modern world of industry and business, the incoming generations tend to nurture ambition and aspiration to step up the ladder of job hierarchy. This rightful desire for upward mobility is strengthened when opportunities are offered to the workers, within their organisation or outside it, for the training or further training which fit them for the new job responsibilities.

The fundamental principle of the present-day vocational education is that every learner should be given as much education or training he wants at a particular time. Instead of complete preparation for a life occupation, it may be just enough when an individual is equipped sufficiently with knowledge and skills which may help him in meeting his immediate social or economic needs and responsibilities. Through a well-devised system of further or extension education, persons may get prepared for newer or higher occupational callings and responsibilities under the rapidly changing socio-economic order. Further education can help a person in upgrading his job or in seeking alternative occupation or in getting training related to any other personal growth and development.

Further education in vocational and technical areas covers a field of great diversity and usefulness, as is the case in U.K., where—"it is the fastest growing and in many ways the most successful and inventive areas of English education". When properly organised and developed, further education system can provide immense scope and vertical mobility of young working persons towards their goal of better and higher academic and professional achievements leading to better and richer employment benefits. By adopting modern methods and routes of study, facilities for further education can be provided extensively and economically for the emerging class of skilled persons that will have the ability and academic standing to enter advanced education and training programmes. For example, widening the range of routes available—part-time day/evening, block release, sandwich, directed private study or correspondence route or mixing of routes—should give the widest possible opportunity for students to study for various courses. Similarly, devising specialised courses based on the principle of multiple-entry credit system, may make it possible for motivated students to enter a higher stage of course with the minimum of academic entry requirements.

A system of further education of the envisaged kind shall

thus prove to be a major integrative factor, a highly motivating force for successful career development of young persons who have had the basic initial groundings in vocational education.

Occupational preparation

To put the discussion on occupational preparation in proper perspective, it will be useful to highlight the distinguishing aspects of education and training.

It is important to underscore the fact that education by itself, except in certain cases, rarely generates the potential for entry to the first job. The contemporary education based on traditional curriculum weighed with academic or cultural content is hardly the means to fit persons into places in the modern work force. Training, which is regarded as an addition to education, is needed to prepare persons for the different occupational levels. The essential purpose of training should primarily be—to increase the work efficiency, to improve the conditions of the individuals, to provide means whereby the individuals may increase their earnings and improve their job status. Education, in its liberal sense, is a humanising process. Training, in its utilitarian sense, is a career building process. Education is a face-to-face instructional activity mostly carried out within the precincts of an educational institution. On the other hand, training constitutes a out-of-the class activity mostly carried out in work places. Systematic training implies a concerted process directed towards conformity to the requirements of work places and conditioning the trainees to work culture and work discipline. Training presupposes a certain minimum of education acquired by a trainee. In short, training is a sort of super structure, to be built on the edifice of education preparatory to training. That way, there is innermost correlation between education and training.

Educators and professional experts believe that a comprehensive process of occupational preparation should include both education and training. They argue, rightfully of course, that such a preparation will enable students to achieve

their maximum in the knowledge, skills and behavioural accomplishments necessary for a successful satisfying life. To meet the requirements of good citizenship combined with efficient service in the context of the modern economy and technology, learning experiences must be enlarged and enriched by supplementing in - class activities with out-of-the class experiences.

A good system of preparing young people for a wide range of diverse vocations or occupations thus call for organised and co-ordinated efforts in integrating vocational education and training. The integrated process of education and training could be developed along four inter-related stages: (i) Academic education; (ii) Pre-occupational education and training; (iii) In-plant or on-the-job training; and (iv) In-service training. These four stages should mean...

Academic education

- (a) Theoretical knowledge—in terms of definitions, basic principles and fundamentals, descriptions and applications—about subject-matter related specifically to the work the student should perform in the shop/laboratory/field during a given educational period.
- (b) The knowledge of the necessary elements of maths, science and similar educational subjects in the general and applied fields to the extent it is considered essential to the career field the student is preparing to enter.

Pre-occupational training

- (a) The knowledge of materials, tools and techniques, operations of specific pieces of equipment, safe work practices and procedures, work standards, and the application of technical information in the practical solution of problems typical to the career field the student is preparing to enter.
- (b) The knowledge providing information about the broader occupation field, current developments in the field, work habits and relations and other related information, if any.

- (c) Practical, shop and laboratory skill development training related to trades or occupations, communication skill development training, and other related skill development training, if any.

In-plant or on-the-job training

This kind of job entry training should be aimed at exposing the trainee to the actual working methods and techniques related to occupational tasks. The training process should be directed towards acquisition of manipulative skills, occupational competences and work culture and work discipline groundings.

In-service training

This kind of occupational training be directed towards upgrading knowledge, skills and competences of skilled workers so organised that they may advance up the ladder of job hierarchy while in service as and when the opportunity may arise. This extended system of occupational training should also correspond to career-long further training and retraining in specialised occupational areas.

For the first two stages of occupational preparation, the major responsibility must belong to institutions catering to vocational education and training. For stages three and four, the responsibility for accomplishing the training tasks is best discharged by employing organisations.

Institutions can at best turn out readily trainable but not fully trained skilled personnel. The training at the institution level can be feasible only in the areas of basic skill related to trades or occupations, practical training in some manipulative skills and some degree of conceptual skills commensurate with the theoretical topics of the course concerned. Training specific to particular occupations can best be imparted at the beginning of and during employment, or preferably after a further definite occupational responsibility.

The training system should thus be conceived as an integrated process which may take place partly in institutions

and partly in work places, the two parts matched closely. In the final analysis, the most effective training programmes are those that lead to real jobs; which should mean organisations should train persons to meet their genuine needs. In a wider sense, training must be viewed as 'post-institution' investment leading to increased production and better productivity. Viewed purely from the economic point of view, training is a cost of production of labour.

Levels of industrial work force

There are recognised levels of industrial work force. The technologist, the technician and the skilled worker or craftsman make up the "production team" that produces the goods and services that are the foundation of the nation's industrial economy. There is not always a distinct separation between the three levels. Some overlapping in the job requirements and responsibilities is there. However, this classification of trained technical manpower spectrum has been generally accepted in our country.

The technologist or engineer holds a degree or equivalent qualification in technology or engineering. His work functions and responsibilities relate to management, execution, research and development activities.

The technician is a person qualified by education usually in a technical institution like polytechnic or by training under operating conditions in well-established training organisation within industry. The technician holds the intermediate position between the technologist on the one hand and the skilled workers on the other. The technicians's work functions and responsibilities relate to activities like construction, fabrication, production, maintenance, testing, operation, installation, drafting and estimating, and so forth.

The craftsman or skilled worker is one who has completed training in a vocational institute or has completed apprenticeship programme in a trade or is engaged in a vocation in which vocational knowledge, skills and competences are acquired. I.T.I. trained personnel and

National Apprenticeship Certificate holders belong to this category. I.T.Is. provide vocational education and training—with knowledge and skills in occupational trades, mostly of industrial nature, leading to vocational careers. Training of this kind prepares skilled workers needed for plants, factories and industrial establishments. The training system represents a transition from general secondary education to vocational education leading to employability for current, new and emerging occupations.

The growth and diversity of industry and advances in science and technology have led to ever-increasing demand of skilled craftsmen. With on-the-job training and experience, and with further education and training when availed of, such qualified craftsmen will have ample opportunities for stepping up the ladder of job hierarchy to advanced technical positions as shop-floor supervisors or foremen or middle-level technicians. Several industrial organisations, both large and medium, provide some kind of training for their employees. The training-in-industry programmes include job training, extension programmes training and supervisory training. Such programmes in which both labour and management participate, can provide much needed training for a sizeable section of the skilled work force.

In the industrial sector job hierarchy, this chain of skilled and trained technical manpower occupies the central or commanding position at the level of managerial, technological and engineering skills. They are the personnel who plan, organise, control and supervise processes and operations and undergo activities with job functions appropriate to the position they hold in organisations.

Below the level of skilled workers, there exists another class of workers or tradesmen. They are referred to as semi-skilled and un-skilled workers. An un-skilled worker is one who performs work that chiefly requires muscular energy and very little judgment. Semi-skilled workers may be classified somewhere in between skilled and un-skilled workers. Semi-skilled workers have some knowledge, experience or hand

skills with abilities to work as craftsmen, artisans or handymen. Carpenters, smiths, fitters, painters, weavers, masons, plumbers, tanners-are some such semi-skilled workers that form the work force at the lower rungs of production, manufacturing, construction, operational or maintenance processes underlying mostly middle-scale and small-scale industrial organisations and government establishments. They are the personnel who have to their credit some degree of experience of skills acquired either through the traditional father-to-son apprenticeship practice or by undergoing vocational or occupational education or training in institutions or places of work.

Semi-skilled workers form a recognisable segment of work force in industrial establishments that help restore balance in the demand-supply relationship underlying skilled workers. Through the process of further education or training in vocational institutions or apprenticeship at the shop-floor level, semi-skilled personnel tend to qualify to attain the accepted standards of skill and ability appropriate to skilled operations. Vocational and technical institutions catering to vocational or occupational training at certificate level of course organisation provide the necessary facilities for training of semi-skilled workers and handymen. Such a training system, when properly planned and organised at the State level, tends to supplement the I.T.I. system of training in a large measure. Though the training given in trade certificate level institutions cannot be rated as terminal in character, the end-product may be recognised as trained in semi-skills, which can be up-graded in content and depth by organising programmes of further or extension education and training in the context of the current industrial developments and needs. To that end, the State level vocational institutions, other than I.T.Is., have an important role to play.

Shifting structure of industrial work place

During the past thirty years the course of industrial development in our country has been marked by a massive increase in the size of production units and the corresponding

quality production; by the steady introduction of sophisticated machinery and process; by diversifying the industrial production; and by divisioning and sub-divisioning of labour processes. These developments have given rise to a new order of industrial work place, a phenomenon of changing nature of industrialisation. As a result, modern industrial requirement in terms of work force are now cast in an altogether different mould. A major aim of the efficiency movement in modern industry is to facilitate the greatest productivity with the least expenditure on manpower and other resources. Industrial and business leaders therefore look to the school or institution to develop a new type of student or trainee with behavioural pattern necessary for the modern age. A well-trained and adaptable worker conscious of obligations and efficiency, a better citizen—is the modern requirement.

As a consequence, jobs are becoming highly specialised and standardised, especially in corporate organisations. Divisioning and sub-divisioning of labour process is the order of the day. The diversity of industry's work force with its various levels of hierarchy require different types of workers—with different personality structure with different levels of intelligence and initiative, and with different levels of skill and competence. New jobs arising in the emerging high-tech economy require skills that many workers simply do not possess.

Requirements for the new emerging jobs are spelled out not in terms of knowledge and skills but in terms of behavioural pattern—habits, values and personality traits conducive to assembly line techniques and turn-key industrial processes. In the modern setting, this specialisation of work force means requirement of less craft or skill and requirement of more culture of work. Order, regularity, punctuality, rationality, adherence to work techniques and schedules, the ability to co-operate with co-workers—are the important attributes of work culture.

At the same time, processes and methods of industries have become increasingly more depended on the principles of modern science and technology. More and more jobs emphasize on the need of sophisticated knowledge and skill on the part of the skilled worker in areas like ideas of materials, ideals of organisation, ideas of costs, and so on. Corporate leaders emphasize the necessity for a new stress on far more maths, science, technology and basic skills. Workers in a rapidly changing labour market will need to be generalists, adaptable enough to change courses and change for new careers with a minimum of disruption.

In to-day's industrial environment, the emphasis is on two categories of work force: a sizeable number of workers which need skill, competence and work culture attributes; and a comparatively large number of workers which need skill only in a narrow range of operations. This should mean evolving programmes of education and training with two broad complementary objectives—programmes designed to fit the students or trainees with functional specialities would contribute to their usefulness and thus to their integration into the emerging work culture; and programmes designed to fit the students or trainees with skill and competence commensurate with the job tasks. This should also mean that the traditional curriculum will have to give way to a new dispensation with a mix of knowledge, skill, competence and work culture. Perhaps it may be appropriate to evolve specific programmes of training and retraining for the emerging urban working class.

Needs and demands

Each society needs a certain number of educated citizens, more or less specially qualified, at the desired levels of educational attainment. Ordinarily, this need stems in the first place from the national economy, but it may also be generated by other sources, including the State itself, which has to plan and implement policies and programmes leading to humanpower development and utilisation.

Before commenting on the supply-demand relationship related to skilled workers, it will be worthwhile to refer to the relationship between needs and demands in generalised terms.

First, the co-relation between needs and demands is not always harmonious. Second, in many cases needs precede and exceed demands. But in many others, demands are greater than needs. Third, in many sectors of employment needs and demands fail to coincide. This is more marked when educational systems and economic fluctuations do not match. Fourth, educational needs and demands are both increasing enormously. Among the multiple causes for this kind of expansion are population growth, economic development, increase in knowledge and skills, social transformations and political motivations.

This general analysis apart, expanding economies need ever-large number of skilled workers. Technological advances and changes transform traditional occupations or create entirely new job categories requiring training and retraining on a large scale. New thrusts of a country pre-suppose a parallel effort in preparing persons to man the emerging occupations. To this may be added the emergence of new demands from hitherto stagnant, traditional rural economies. This leads to pressure for education from parents and young people, especially from the disadvantaged and under-privileged classes hitherto more or less excluded from organised education. The facts to-day amply demonstrate that the requirements of development and the opportunity of new employment possibilities act as a strong stimulus to the expansion of occupational education and training.

It is quite rational to understand that the growth in the demand of vocational education and training should be fundamentally determined by the needs of economic development. The law of supply and demand of the labour market, conditioning the preparation of qualified skilled workers in accord with skilled humanpower forecasts and economic development plans, should hold good all times. Yet

the fact remains that the present-day socio-economic forces and compulsions tend constantly to require the education system to operate in advance of real employment outlets. Above all, parents generally do not agree their children being deprived of the education relevant to the modern thrusts of the economy, even when there is only a limited or minimum capacity for absorbing them in gainful employment. "The combination of such needs and interests accounts for the unprecedented pressure of the demand for education at all levels and in all forms" — as rightly analysed in "Learning to Be", UNESCO. This and other concerns stemming from various socio-economic and political considerations, sometimes tend to motivate governments in our country for pushing educational development.

Humanpower data available provides little guidance on the extent of vocationalisation of education at the secondary school stage level. Humanpower needs are generally expressed in terms of matriculates or numbers of students successfully competing courses of general education. Student population in terms of products of vocational or technical schools or centres, craft-training institutes — are not represented in the work force studies and forecasts. Thus there is inadequacy of the available data about vocational or occupational education. Also very little is known about the size of the potential market for trained skilled personnel or the costs and benefits to the individuals and the society of this important part of the country's total education provision. The lack of data and studies add to the already difficult task of planning effective courses of vocational education for the future.

When the propose and plan of expanding the existing programmes, we should also think of the manner in which the already trained humanpower is put to use. The available statistical data point to the fact that a fair proportion of our skilled personnel is being under-utilised, and in some cases, it is unutilised.

The need to pay due attention to the proper relationship between supply and demand in terms of skilled work force has to be understood in the context of stringency of our financial and physical resources. If the country or state is to achieve its targets of economic growth, it must have adequate supply of skilled hands of reach category of jobs to be performed. On the other hands, if there is a surfeit of trained persons in any job category, it implies waste of scarce resources and organisational efforts. It also adds to the difficult problem of unemployment and the resulting frustration to the educated youth. It has to be reasonably assured that educated and trained skilled persons will not remain unemployed or wastefully under-employed.

Status and value of vocational education

Indian education is essentially centred on one basic purpose—to prepare the student for subsequent education. Far too meagre attention is given to the role of the school or college in preparing students for active citizenship and for employability skills. There is a general notion that preparation for a life career is a second-class activity for second class citizens. This attitude is shared by businessmen, political leaders, labour leaders, educators, administrators, parents and students. Unfortunately, this attitude infests the Central and State governments too—which invest far more on general education than they do for support of vocational and professional education. There is no Central act on vocational education, nor there is any Central funding arrangement operating all over the country. What are the consequences of this national attitude? Well, they are:

- At the secondary stage, the enrolment in vocational education is very low. It was just 2.2 per cent of the total school enrolment in 1966, as per the Education Commission's observation. There is no evidence to show any improvement thereafter;
- Good students shy away from vocational education. Students who opt for vocational education are mostly the

drop-outs and cast-offs of the academic stream;

- Teachers and instructors engaged in vocational education enjoy relatively low status or prestige within the teaching profession. Good teachers and instructors are thus seldom attracted to join the vocational stream;
- Facilities for instruction are inadequate both in terms of quality and quantity;
- Courses or programmes offered are far out of context with the realities and needs;
- Achievements in academic subjects far outweigh achievements in vocational subjects. The two parts are usually taught with no relevance to each other. Generally vocational subjects are labeled as "of lower quality", partly because of lower quality of students and partly because of a perverted definition of "vocational subject".

Even the Kothari Education Commission was compelled to make unpleasant comments on the status and value of vocational education. The Commission observed that despite repeated exhortation it is unfortunately still felt that vocational education at the school level is an inferior form of education, fit only for those who fail in general education—the last choice of parents and students.

This attitude must change. At all levels of thinking—national, regional or state—the fact must be recognised that in an increasingly technological era, occupational education and skill development are the keys to a long-range solution, both for the individual and society. Helping young people become employable is an essential national objective.

A concerted effort is therefore needed by government agencies, industrial and business organisations, social and political bodies and all groups and individuals deeply concerned with and interested in vocational education—through enlightened wage policies, improved means and methods of educational organisation, organised vocational guidance and counseling services, the creation of public

opinion—to promote the status and value of vocational education.

Unemployment is more often the result of a lack of proper education and skill acquisition rather than of a shortage of job opportunities. We must, in one way or another, see that our education system prepares boys and girls to use their minds as well as muscles for tasks that to-day's and—tomorrow's—labour market requires. Vocational education provides the diversity and practicability that our education system lacks so much. An efficient work force is the country's best resource—and vocational education is the best guarantee to workers that they will always be qualified for a job.

Educalisation of educational opportunity

The modern trend is towards universalisation or democratisation of education and imparting it to every citizen irrespective of his ability, attitude and social environment. This is made possible through providing wide options to the students in the selection of subjects including languages, sciences, industrial, agricultural and commercial skills, fine arts, crafts, etc. Admission regulations are made flexible and academic deficiencies, if any, are allowed to be made good en route. Remedial measures and facilities are offered liberally. Conduct of examinations is carried out on widely differing patterns for different categories of students. Further education is provided extensively. These principles of equality and social justice practised in some developed countries like U.K., U.S.A., Japan and Germany, are based on the emphasis that opportunities for education should be made available to every person whatever his status in the society or his academic or calibre or ability.

A very important point of view with reference to democracy in education is that modern society requires equality of opportunity for obtaining vocational or occupational education on as extensive a basis as possible. Granted that individuals differ in needs, interests and abilities and that no one type or kind of educational programme is

suitable to the needs and capabilities of all persons; yet it would seem more in the spirit of democracy to provide opportunities for many types and kinds of workers to opt for a variety of courses and activities rather than to limit these opportunities to the few who are preparing to enter the vocations or professions.

Our education system has unwittingly created social barriers which militate against the principle of equalisation. In our country, the education of an average student in respect of vocational or technical careers stands neglected. It is this kind of young persons — who would make the rank and file of work force in several fields of employment — that hardly receive the relevant occupational education or training to help them discharge their functions with some degree of efficiency. This imbalance can be overcome by enlarging and modernising the system of vocational education, by dispersing the institutional facilities as widely as feasible, by offering a variety of programmes of education and training to meet the needs and interests of individuals, and by providing other built-in features in the course organisation so as to provide facilities that may be availed of as freely and on as wide a basis as possible.

Constraints, priorities and optimisation

The effort required to pay adequate attention to the proper relationship between needs and demands has to be understood in the context of constraints of our financial and physical resources. Education and training of the number of skilled workers required at different levels of occupations may entail expenditure of an order which the national or state economy may not afford. In planning and formulating vocational education and training programmes, it is imperative to take into account the resources available and the capacity of the administration to provide the necessary finances and other facilities needed. There are to face other constraints that limit expansion and modernisation in the field of vocational-technical education. Availability of — competent qualified teachers and instructors; shop and laboratory

equipment of the right type and quality; the facility of training and retraining of teachers and instructors; teaching aids and equipment; instructional materials like text books, reference books, books of programmed instruction, instructional manuals and work books; proper organisation for testing student performance; vocational guidance and counselling service; financial and other aids to students—are the major constraints. There are often overcome by lowering the standards and norms. Diluting standards and norms leads to ineffectiveness of the education and training programmes.

There are internal constraints of this kind in every educational system which limit generating of additional facilities needed for expanding or modernising education. This is all the more so in the case of vocational-technical system of education which is cost-intensive compared to any general education system at the school stage. In such a situation two alternatives come to mind as a matter of solution. When the total cost of proposals goes beyond the finances available, priorities will have to be determined and enforced by the administration. Alternately, it may become necessary to place a much greater emphasis in our plans for expansion and modernisation on the basis of intensive utilisation of the available facilities. It is generally agreed that the existing institutional facilities in terms of space, plant and equipment, under-utilised teaching and instructional staff must be put to their optimum use. Optimisation of facilities can also be thought of in terms of lengthening working days, making full use of the long vacations, organising two-shift working, organising part-time route/corresponding courses, and generally by creating an environment of hard sustained work.

Question to be answered

We have discussed in generalised terms some important issues, purposes and principles that affect the planning and operation of the vocational education system in our country. There are yet many other questions as :

- What shall be the philosophy and objectives governing vocational education?
- For what fields or occupational areas vocational education be designed and organised?
- For whom vocational education is intended?
- What shall be the awards? What shall be the levels and values of the awards?
- What shall be the routes of vocational education?
- What shall be the nature, contents and depth of the curricula for vocational courses?
- How and to what extent shall vocational education be oriented to actual practices or career situations?
- What kind of learning experiences shall be included in vocational education?
- How and to what extent actual occupational knowledge and skill be emphasised in the curricula?
- How and to what extent vocational education be integrated with general education?
- What shall be the key persons or agencies for designing and formulating the curricula?
- What shall be the standards and norms and how shall they be established and maintained?
- What instructional methods and techniques shall be developed and used?
- How shall the student performance be tested?
- How shall working co-operation between institutions and employing organisations be established and maintained?
- Who shall administer and operate vocational education programmes?
- What shall be the type of organisation? What shall be the character of institutions?

- What shall be the essential facilities and services for establishing and maintaining programmes of instruction?
- Who shall pay for vocational education? What shall be the system for funding and financial aids?

Acceptable answers to questions such as those raised above involve a detailed study and analysis of many concepts, principles, facts and practices in vocational education. The key persons and agencies primarily concerned with the processes and procedures of designing vocational education courses are expected to address themselves to the issues and questions raised here, and to decide whether to accept the presented premises and analysis, to work for reforms, to bring about the significant changes and modernisation in the field of vocational education. Studies like this should not be accepted as the final answer about the present. They should, ideally, only raise issues and questions about it.

It is hoped that the exposition, perceptions and arguments presented in this book may serve as a means of evaluating the purposes and scope of the existing programmes of vocational education, and may also serve as a guide in arriving at decisions concerning expansion and modernisation of vocational education.

Teaching and Learning Vocational Education

The promotion of technical and vocational aspects of the curriculum needs to be accompanied by changes in the means by which young people learn. The development of new approaches to learning is the basis of curriculum change in Enfield. The focus is not an occupational family or a range of particular skills, but the young people, their possible futures, and their ability to cope with the unknown and the frequently-changing. The emphasis is therefore on learning methods and activities as much as on content.

More must be done to enable young people to live with competence and confidence in the world which will exist at the end of the twentieth century. The more specific and perhaps more easily realisable way of achieving this is through teaching the new technology. But at the same time we have to be aware of the accelerating rate of change—a rate which will ensure that most of the specifics of what we teach will be out-of-date and of little use in ten or twenty years' time. One only has to look at the accelerating rate of development in computing in the last twenty years to appreciate this.

At the same time as ensuring familiarity with the new technology, we have to focus on the students themselves, who will live their adult lives in this unknown future. If we simply *train* them in specific techniques, they will be at a loss when new demands are made upon them. If, however, we

encourage their development into mature, flexible individuals, they stand a better chance of coping. Experience in developing pastoral techniques in Enfield has taught us the importance of helping young people to develop a positive self-image. If they view themselves as individuals of value, they will develop the resources within themselves which will enable them to arrive at a correct estimate of, for example, the blandishments of advertising, the bullying of their peers or the demands of an unfamiliar situation. We cannot predict the nature of the world and of work in 2000 and education should reflect that uncertainty.

In Enfield, we have set ourselves the task of preparing the young in terms of the curriculum as well as in a pastoral sense. The 'way in', we believe, is through 'skills' and skill 'ownership', both of which are much misunderstood terms. The Schools Council publication, *The Practical Curriculum*, describes 'skill-ownership' as 'more than knowing', although "knowing" is a requisite of skill-ownership and, therefore, skill transfer. It also means that the owner of a skill is conscious and aware of his/her possession of the *ability to organise and effectively carry out such actions as will produce desired results* (in a variety of contexts)

It may seem unnecessarily cumbersome to refer to the process of gaining skill-ownership' rather than 'learning'. The distinction is made, however, to emphasise a central fact which is not easily accepted by teachers. This is that skills, in the sense used here cannot taught. The student cannot occupy a passive role in relation to the teacher. The student must become actively aware of his/her present stage of development or understanding, will a change to take place and be prepared both to embark on a programme to effect such a change, and also to measure whether and to what extent the desired modification has taken place. It is the teacher's task to design learning situations and methods to encourage and facilitate this, and to initiate discussion with the student to promote this: and the student's task to fulfil the learning objectives which he/she and the teacher have agreed

upon together.

TVEI is one of a number of curricular initiatives currently being implemented in Enfield, all of which are based on the premise of the student taking more responsibility for his/her learning. The structure of Enfield TVEI is that a minimum of 20% of the student's time is spent in the Core Programme and 10% in one of five Technical/Vocational options. The principle of helping a student to develop into an autonomous adult underlines both elements. The TVEI scheme in Enfield is based on five key learning objectives. Students are encouraged to be able to:

- (a) adapt;
- (b) anticipate responses;
- (c) gather information;
- (d) construct, conduct and evaluate a strategy;
- (e) communicate effectively.

All students take 'mainstream' options in the remainder of their time, and have access to work experience.

What follows is a series of accounts written by three teachers, in different schools, of the way they have viewed the implementation of the Core Programme of Enfield TVEI. There is a little overlap, but it is hoped that the reader will find here three distinct personalities, who are working towards the concept of 'skill-ownership' in different ways. They have operated the new scheme for only a year, and are conscious both of the fact that they are working towards a new educational concept, rather than having captured it in its entirety, and also the problem that one's theory can outrun one's practice. However, they describe what they are doing, 'warts and all', in the belief that this is of value. It is in the nature of this approach that there never will be a 'finished product' in the sense of a prescribed syllabus.

Teacher A

The five learning objectives presented a broad canvass on which to formulate a course of greatest benefit to the school. In

fashioning these objectives into a learning package I have been concerned, at all times, to maintain their inherent flexibility.

My previous experience included deep involvement in establishing a course based on an integrated curriculum. I was keen to accept the post of TVEI co-ordinator, as I had become firmly persuaded of the merits of moving forward from the traditional subject-based curriculum. The prospect of developing the concept across the ability range was the challenge I welcomed to prove its worth to all students and teachers.

The nature of the course and its origins necessitated a close working relationship with the local authority. Regular in-service training days were held at the teachers' centre with the co-ordinators from other schools in the borough. These were most beneficial in fusing a team. From an early stage an *esprit de corps* was nurtured which extended to informal meetings in coordinators' homes. At these gatherings ideas were discussed, experiences exchanged and intentions formulated to drive forward the concept.

A key planning issue was staffing. I was convinced that the requirement that students should recognise links between subject areas must be mirrored by a team approach from staff. For this reason I opposed the idea of one tutor being based on the TVEI room for the entire week, as I considered that students needed to work with different types of teachers. Furthermore, my enthusiasm would be better served by a team of teachers from various departments, who shared by attitude. Therefore, three other members of staff were timetabled to work with me on the project.

Creating the right environment for the course was another crucial component of the planning strategy. I wished to create a space which encouraged concentration and task application yet was conducive to talking in a relaxed manner. The staff dining room served this purpose and its new use was agreed. Indeed the first task of the students was to decorate the room; an exercise which, in addition to aesthetic

considerations, included the costing of the operation and subsequent purchase of materials. Thus the students' own environment was the fruit of their first experience of planning, decision-making and collectively 'making this happen'.

The resolution of the planning issues in respect of staffing and environment proved a timetabling challenge. TVEI required a tutor to be available at all times regardless of the number of students to be supervised. This was difficult to schedule yet such was the momentum behind the course that all obstacles were overcome.

The question of resources represented the final piece of the planning jig-saw. The need was for packs of material which would guide students in their research, encourage them to question information and look beyond the school for answers. Few such packs existed, although amongst them we found Community Services Volunteers (CSV) to be well presented and reasonably priced. Other sources included CRAC, the Inland Revenue and the Health Education Council. Our own work-sheets began to be written at this time-emphasising the need for initiative and enquiry.

With the planning process complete, the next stage was to develop the classroom methods that would transform ideas into action. Our initial emphasis was twofold: first, deciding the best method of introducing the programme, and second, preparing the necessary learning resources. There was some debate between the view that complete freedom of choice should be offered immediately and the contrary view which held that a more controlled approach was prudent. These perspectives were reconciled in the form of negotiation, which provided for freedom of choice within a controlled and monitored framework.

Each student would select the topics which most appealed to him/her from the scheme's Core Programme. He/she would then prepare a flow-chart mapping out a possible scheme of learning, and discuss this with a tutor. This would form a permanent record of the agreement between student and teacher, a contract for learning.

Negotiation began at an early stage when I talked informally to possible candidates for the scheme, at the end of their third year. I explored their feelings towards the scheme and assessed their motivation. When the course was under way in the subsequent year, these early conversations proved a valuable way of re-focussing vision that had become blurred by short-term difficulties. It was possible to remind students of their original goals and ambitions and set them back on target.

Formal negotiations began in September with the beginning of the course. The freedom to select subjects for study was offered with the provision that students fully appreciated the need to plan and discuss progress. Negotiations in our term meant: reviewing possible learning experiences; discussing their value; assessing the best approach; agreeing a course of action; and establishing a procedure for registering progress to the achievement of goals.

Before negotiating process was complete, ideas were also exchanged on complete and innovative methods of recording information gathered. Media such as wall displays, written reports, posters and the like were all considered. For example, the findings of a project on wheelchair users and facilities for the disabled were summarised on a warning poster aimed at the non-handicapped, illustrating the dangers for those confined to a wheelchair.

Not all students were able to perform readily as self-starters. Some found the decision process difficult and were reluctant to guide their own progress. To maintain the momentum of the process, it becomes necessary for the teacher to assume responsibility for decision-making until such time as the student feels sufficiently confident to deal with the challenge.

Such problems, given a little initiative, can readily be translated into opportunities. Thus a student who is unable to deal with an individual programme may function perfectly

adequately as part of group or in a pair. An example of this occurred with a comparative study of shopping in the market and supermarket. A student expressed the desire to question shoppers about their preferences, but was reluctant to undertake this alone despite having prepared a questionnaire that was more than equal to the task. A gregarious member of the group volunteered to ask the question whilst the originator of the questionnaire recorded the answers.

The example above indicates that the actual piece of work may be of far less importance than the social and teamwork skills which are developed. Such skills are an important foundation on which to build a successful life outside school. Our commitment to a residential component on the course reflects their importance.

Throughout the first year of the scheme we have endeavoured to use as many outside agencies as possible. People other than teachers, from organisations other than schools, help to add a freshness and stability to the learning experience. Students have been encouraged to suggest and invite possible speakers and have responded to this opportunity with enthusiasm. Each of the local political parties has submitted a representative to be questioned, and these sessions initiated much debate. Visits outside school have also been encouraged, to collect information and sample different environments. Local industry, social services and the council offices have all received parties of students or individuals.

Since 'skills across the curriculum' is one of the organising themes, we have made use of other departments in the school. Technical departments have been a particularly useful source in this respect.

In keeping with the need to weld learning to the world to work and technology we have made extensive use of micro-computers. These are great motivators and are particularly suited to the development of problem-solving skills. In addition to an increasing supply of educational software,

many large companies make their own training packages available to schools.

The year has not been without its problems. Many students found it difficult to re-adjust to the conventional subject-based curriculum during the rest of the week. This is in part a measure of how they were able to demolish the barriers between subjects and how they became active participants in learning.

Whilst we have had to adapt the scheme when putting it into the classroom. I am satisfied that its underlying educational philosophy remains intact. The majority of students respond well to the stimulus of making their own decisions and benefit from the widened and enriched curriculum. I am convinced that as a result young people will be able to advance into the world of employment and technology as confident and responsible citizens.

Teacher B

The most important feature of TVEI for my school was that it offered the possibility of change in a system of schooling inhibited in its outlook, way of innovation and conscious that direction was determined by remote external agencies. Such restrictions give rise to conflicts. Education is swamped by schooling. Schooling more accurately reflects the expectations of a society which measures success in terms of percentage pass rates traditional examinations, which see discipline as collective rather than individual quality and considers imagination, creativity, inventiveness and independence of mind almost subversive. At the same time education is attempting to nurture the individual student by developing his/her potential to the fullest possible extent, broadening perspectives and maximising opportunity. It looks to success and cannot, as does the traditional system, emphasise failure.

The teacher, whilst wishing to promote the concept of a liberal education, cannot ignore the demand of examination boards, employers and parents and must not neglect the preparation of the student for employment or further

education beyond sixteen. It is, however, these very demands which have sown seeds of dissatisfaction. Students are increasingly restricted in their choice of subjects beyond fourteen years of age, they are required to specialise well before they are able to appreciate the consequences of their selections, they must drop subjects which they enjoy and in which they display talent, and have a little chance to develop new skills or to explore interesting by-ways. We have promoted a system which makes little real demand on the intellectual or practical abilities of the student and one which sees the teachers often working much harder than their charges.

The planning process of any pilot scheme must be seen as a coherent programme in which course content, methods of implementation, techniques of assessment and consumer response are constantly reviewed. All participants must be given a platform to express opinions and should expect to be involved in all aspects of the course.

It was to our considerable advantage that an outline for the Core Programme had already been prepared by college lecturers, teachers and youth workers in the employ of the local authority. The early planning meetings could therefore concentrate on implementation rather than the development of content. The most pleasing aspect of these meetings was that no common approach emerged but that individual schools were free to progress in ways most suited to their students, staff and particular methods of organisation, with the students as a particularly influential element. Whilst meetings of teachers continued throughout the first year, detailed planning became an integral part of individual student programmes.

All students' timetables are constructed as described in the introduction to this chapter. The way in which individual programmes are put together leads to an emphasis on individual work within TVEI. As a consequence, traditional classroom approaches are not employed, nor are such rooms utilized. A comfortable, well-equipped room is the centre for

much of the work, but students are encouraged to make use of other facilities both in and out of school. This has already established contact with other schools, notably those involved in special education, colleges of further education and Middlesex Polytechnic. An appreciation that resources are widely available is most important.

The role of the teacher has altered substantially. It is the student, with any necessary guidance from staff and at times other students, who must organise, develop and prepare schemes of work. The students are also responsible for the collection of resources, seeking specialist assistance and, where new skills are needed, for arranging suitable courses. Such talents do not emerge overnight. In the early stages teacher involvement is considerable, and students are led to solutions. It is clear that, given time, the skills required will develop. Group work is not uncommon but arises from mutual interest rather than from any formal teaching requirement. There are areas of skill development, for example interview techniques, that do need greater co-operation. In all of the base programme units, a framework is provided to establish pathways that each student might follow, objectives are set the progress monitored through discussion. Students are expected to employ a range of methods or recording and presenting completed work. In concentrating on 'skills based learning' and emphasising the role of the students in this process, the hope is that they will begin to develop the five essential attributes noted above.

Formal assessment of progress entails detailed profiling of the whole curriculum. This creates the greatest difficulties and highlights the need for staff as well as student education. A weekly progress record, maintained by each student, is supplemented by agreed statements drawn up three to six times per year, indicating progress made in all aspects of the curriculum. It is envisaged that on completion of the course a summative profile will be drawn up for inclusion in a certification package, a document which will, it is hoped, provide a most valuable 'sales aid' to any student.

Skills or resources based learning methods place particularly heavy demands on learning materials. There is quite clearly a need to ensure that certain materials are immediately to hand, but attempt to stock the base room with every conceivable resource would not only be impossible, but would undermine major elements of the course. A large comprehensive school is in itself a most substantial resource, for a vast wealth of information is available at little cost and effort. Beyond the immediate environment of the school are any number of agencies many of which are very willing to provide resources free of charge. Student quickly learn to make use of such munificence.

Teacher C

The aims behind the scheme and approach adopted at my school are:

1. There should be a change of emphasis away from content learning towards skill-based learning, that is, a change from the product of learning to the development of the cognitive processes involved in learning.

The learning of processes or skills is achieved through their practice. The approach in the classroom needs to be one of experience-based learning, whereby the student is provided with opportunities to develop competence in those skills. The experience may be provided through real life activities or simulated and role play activities.

2. The vocational awareness and interests of the students should take a more central role in their education. For too long vocational awareness has been confined to the periphery of education. Such a change in emphasis may not only provide students with enhanced prevocational preparation but may also make schooling more relevant to students and increase their motivation.
3. Students should take a more active and responsible role in their own learning. This is achieved through the process of negotiation. This term negotiation implies a contract

whereby both parties have something to offer the other in return for what the legal profession would call 'considerations'. A negotiated curriculum involves the school offering the students greater choice in deciding what they will study and how they will tackle those studies. Students, in return, provide the 'considerations' of increased motivation, self-reliance and independence. The role of the teacher is altered. He/she becomes a tutor/counsellor who manages the learning experiences of the students and provides guidance, so that the students may complete their studies in an effective manner. In the process of negotiation, a student may wish to study a subject not conventionally on offer in the school's option system. Such subjects may be studied through self-supported study.

To achieve these aims, we recognised 'the need to create a fully resourced base room which contained audio-visual resources, computer hardware and appropriate software (some specially written) to facilitate effective computer-assisted learning. There was also a need for a careers information bank, a large collection of books, information packs, charts and other resources, and a collection of self-supported study materials. These are specially prepared, so that the students may progress through their studies in a manner akin to a correspondence course. The difference on this course is that the tutor is available to advise. Such a resource base room is used by the students as a self service educational workshop.

Students arriving at the base room negotiate with the tutor the learning tasks to be completed during the lesson, or over a series of lessons. As different students, and groups of students, may be undertaking different tasks during the same lesson, it is of paramount importance to record the decision of the negotiation. The tasks decided between tutor and student are therefore entered on the student's planning sheet. For the students to take a more active and responsible role in their learning, it is important for them to be aware of the purpose of

the tasks which they are completing. This is achieved through the use of checklists noting the objectives of the tasks achieved by the student.

An account of part of a typical lesson will illustrate what happens. Eighteen students are due in the base room. Two of the students are attending a children's nursery as part of their vocational awareness. One student visits a school for the mentally handicapped and spends some time working with a speech therapist. The student has an interest in speech therapy as a career. Two girls visit the School Psychological Service. They interview an educational psychologist on the importance of the 1981 Act in treating children with special needs. Three students are completing a survey on industry. The activity is based on a pack produced by the Basic Skills Unit called *Your Local Industry*, which involves the students investigating the nature, size and type of industries in the community. Five students have been studying the topic of money budgeting. They are conducting a survey on teenage income and spending habits. Extensive use of computers in the processing and presentation of the data is required. One student is busy writing a computer program to calculate income tax repayments. Two students are engaged in self-supported study on a subject of their choosing. Three girl students are making light pens for use on the computer. The remaining two students are producing a post on safety in the home.

The reader may feel that the description above sounds interesting but may also wonder how the students react to such a radical departure from traditional classroom teaching. The general impression is encouraging. The course and the lessons are undoubtedly popular with many students. A small number of students, however, do find that they prefer the dependency of traditional teaching and do not wish to avail themselves of the opportunities provided. The course appears self motivating to the vast majority. Homework, as such, is not set on a specified day to complete a specified task. Students who have gained the sense of responsibility for their own studies complete their work at home, though such work is not

termed by them as homework, nor does it have the traditional connotations of coercion and drudgery. Students are so keen to continue working that changes of lesson are ignored.

The final question which needs answering must be 'Can this approach, adopted for TVEI groups, be transferred to other parts of the school curriculum?' The answer must be an overwhelming 'yes'. Any approach that engenders such enthusiasm in students and makes education an enjoyable worthwhile and relevant experience is worthy of expansion into other parts of the school curriculum.

One must, however, make one important point. Class sizes can seriously affect the success of this approach. There has been mention of a lesson with eighteen students. It would be impossible for this approach to operate with a class of thirty.

Vocational Education and New Technology

The rhetoric of skills is much in evidence. We hear of 'skills for the future', 'relevant skills', 'the skill demands of new technology' and the 'skill needed to survive in the modern world'. The aim of this chapter is to examine the notions behind the rhetoric, and to consider whether an education based on skills has either intrinsic worth or economic utility.

The chapter contains what might be considered an unlikely mixture. Examples of the use of the terms skill, vocational and pre-vocational education are followed by a critical discussion of these terms, particularly the notions of specific and generic skills. This use of language is then related to the needs of employers and the language in which those needs are phrased. In particular, the demand which will be made of Britain's education and training systems from the field of information technology are examined by considering both British initiatives and the Japanese approach. Is the rhetoric of skills of value in meeting the educational demands of new technology?

The growth of the language of skills and pre-vocational education

Surely it was James Callaghan who started it all. Callaghan's so-called Ruskin College Speech of 1976 contained an attack on informal, modern teaching methods, a

'concern for standards', and a criticism of the poor relationship between schools and industry. In short, he questioned the very function of schooling by suggesting that schools were not providing the *necessary skills*. Two statements from the Ruskin College speech serve to illustrate this point:

I am concerned ...to find complaints from industry that new recruits from the schools sometimes do not have the basic tools to do the job later.

There is not virtue in producing socially well adjusted members of society who are unemployed because they do not have the skills.

Thus began 'educational newspeak'. Educational objectives were being defined in terms of *skills*—not a new strategy but one which served Callaghan well and, more importantly, provided a framework for the language of Government White Papers in the 1980s. The language of skills, skill-deficits, skill-shortages, skill centres, skill training and skills in new technology is now firmly embedded in educational parlance.

Two points of major importance emerged from Callaghan's speech which have had a potent (though often tacit) influence on discussions of education ever since. The first point, by implication, is that one of the key factors in the rise of unemployment is the shortage of relevant skills. This can be called the 'skills-deficit' of unemployment. It is a model which is adopted implicitly, and sometimes explicitly, by the Government White Papers discussed shortly. In adopting this model Callaghan was suggesting that one of the key functions of education is as an instrument to provide 'necessary skills' and thereby reduce youth unemployment. The second implication is that a set of 'relevant' or 'necessary' skills exist which (if required) would make students more employable and, in Callaghan's words, provide the 'basic tools to do the job'. Callaghan made no attempt to outline what these necessary or relevant skills are—he simply implied that they exist.

Since Callaghan's speech (though not as a result of it) unemployment has risen from 1.2 million to somewhere between three and four million. This steady increase in unemployment had led, paradoxically, to a strengthening of the bonds between education and *employment*.

The impact of unemployment on education can be crudely, but usefully, divided into four sequential stages:

1. The implicit promise in schooling (*i.e.*, 'work hard at school to get a job after it') is undermined.
2. The direction and traditional function of schooling and education are questioned.
3. Education, training, and 'pre-vocational education' are increasingly seen as an instrument to respond to youth unemployment.
4. The bonds between education and employment are tightened.

The latter stage is perhaps the irony in the influence of rising unemployment on education. It seems a paradox that the main effect of unemployment has been to strengthen the bonds between education and employment, and lead to the growth of *pre-vocational education*. This is the area where skills as educational objectives are most in evidence.

The two key White Papers which helped to develop the notion of 'pre-vocational education' were entitled *A New Training Initiative* and *Training for Job*. The former was one of the key documents leading to the YTS. The aim of the paper was to provide 'better preparation for working life in initial full-time education', a reflection of the fourth stage described above. The paper therefore aimed to ensure that 'the school curriculum develops the personal skills...needed for working life'. The reader is left searching in vain through the remainder of the paper for a clarification of which skills are needed for working life.

It (the YTS) will aim to develop basic and recognized

skills which employers will require in the future.

Some mention is made in the following paragraph of specific skills: literacy, numeracy and communication skills are listed. However, these could hardly be said to lie outside the realms of general education. Nowhere in the paper is an attempt made to specify the skills required for a truly vocational education, or the skills which 'employers will require in the future'.

The question of whether these skills exist, how they can be specified and if so what they are, is one of the issues I would like to raise in this paper.

The 1981 White Paper also contains three key paragraphs which reveal two implicit models of the *causes* of unemployment and its relation to education:

The skill shortages which have held back our economic progress in the past could reappear when the economy recovers.

For the immediate future the Government sees an increase of public expenditure on this scale as the only way of plugging the gap in the training provision required if we are to be ready to meet the skill needs of the economy as trading conditions improve and to offer adequate opportunities to the current generation of young people.

For many years now our system of training has failed to produce the number of skilled people required by a modern competitive economy.

These paragraphs are interesting for two reasons. Firstly, they tacitly rely on two models of unemployment. The skill-deficit model comes through strongly in all three paragraphs. The second model of unemployment, which can be called the 'cyclical model', suggests that an upturn of the economy is 'just around the corner and that unemployment will decrease as trading conditions and the economy recover. This model is now more than five years old but recovery is not yet in sight. Both models have been attacked by established authors since

1981. Stomer, for example, argues that unemployment patterns are caused by structural changes within society in undergoing a revolution from an industrial to a post-industrial era. Unemployment patterns are not fundamentally altered by skills shortages or by cyclical changes in trading conditions. Stonier's argument is supported by raw statistical data. Japanese labour trends indicate that structural changes are indeed occurring in their rather advanced industrial society. There has been a clear trend, which is still continuing, towards service industries and the so-called 'information sector'. The Japanese have even coined a word for it which cannot be printed here but means roughly 'servicization'. Similar, though more depressing trends, can be seen in the statistical data on Britain. Primary and secondary industry have both declined sharply while only service industries have grown.

The reliance of the 1981 White Paper on the skills-deficit and cyclical models of unemployment clearly determines its views on education and training. This comes through most clearly in its references to 'skill needs', 'system of training', 'skill shortages', and the suggestion that unemployment can be tackled by tightening the bonds between education and employment *i.e.*, by 'pre-vocational education'.

Three years later the 1984 White Paper, *Training for Jobs*, seemed to be offering similar explanations of unemployment and the failure of education despite the published warnings of Stonier, Toffler and even of Daniel Bell a decade earlier. The skills-deficit model of unemployment comes through clearly:

It (vocational education) will enable many more people to be trained and improve their prospects of employment by placing greater emphasis on equipping them with skills that are currently required.

As in the 1981 paper, no attempt is made to investigate or even clarify the notion of 'skills that are currently required'. References are again made to 'skill shortages holding us back' but no suggestion is made as to which skills are in short

supply. One reference only is made to the effect of new technology upon training and employment:

The main objective of this strategy (training programmes) is to secure an adequate supply of people with up-to-date skills to meet the demands of new technologies upon which economic growth must be based.

This reference to up-to-date skills meeting the demands of new technologies will be investigated later in the paper. The main aim of this section has been to trace the rise of the rhetoric of skills, and alongside it the notion of pre-vocational education. The twin notions of 'skill' and 'pre-vocational education' will now be examined.

The concepts of pre-vocational and vocational education

The notion of *vocational* education is in itself difficult to interpret. 'Vocation' is usually associated with training so that the idea of 'vocational training' makes perfect sense. Training is linked to specific job, career, skill or vocation, when discussing training, it always make sense to ask 'training for what?' Indeed the notion of training makes no sense at all unless it is a training *as* or *for* 'something'. A person can be training as a car mechanic, training for a Judo competition, or training as an accountant. To say that sometime is training always begs the further question *as* or *for* what. Education is a very different concept. Education, unlike training, can stand on its own without being linked to some other aim, goal or vocation. This is perhaps why the concept of "vocational education" is almost a contradiction to certain purists. But, given the instrumentalism or 'new vocationalism' set in motion by James Callaghan it has now become increasingly commonplace to ask of education, 'education, for what?' Hence, the notion of vocational education has become more widespread and perhaps more palatable as 'education' is interpreted as 'training'.

But the notions of pre-vocational education still remains an enigma to translate. Can you imagine a teacher trying to explain the idea to a worried parent?

Teacher: Well, it's the education that your child gets before he(he) starts on his(her) vocational education.

Parent: Well, what's vocational education, then?

Teacher: Well, it's the education your child gets once he(he) has finished his (her) pre-vocational education.

The concept of pre-vocational education remains a mystery to me, and (in a most cowardly fashion) I will give up any further attempt to translate it.

Dearden, with his usual rigour and clarity, analyses the notions of vocational education and training in a valuable way (though he sheds no light on the notion of pre-vocational education, so at least I am in good company). Dearden's main general point is that education and training are 'different but not necessarily mutually exclusive'. In other words, the same learning experience may qualify to be called either education or training, or perhaps both. One such area at the intersection of the two concepts *may* be vocational education, which could therefore equally be called vocational training. This would be in sharp contrast to other experiences where the labels 'education' and 'training' imply totally different activities. Sex training and sex education will provide totally different experiences - if the former were adopted on the school curriculum, for example, I believe it might cause far more parental anxiety than the latter.

However, vocational training could only be worthy of the term 'vocational education' if it were 'liberally conceived', and included 'learning about the nature of work, discussing its forms and contexts: a version of careers then the notions of 'vocational training' and 'vocational education' might indeed be synonymous, and there might also be some meaning for the notion of pre-vocational education in terms of the wider, more liberal conception which Dearden describes.

In practice, however, the notion of vocation training is almost always translated in terms of 'skills' which can be specified and stated. If we use Dearden's perfectly acceptable

view that education should involve 'the development of knowledge and understanding in breadth and depth' and a 'degree of critical reflectiveness and corresponding autonomy of judgment' then learning experiences involving only skills cannot possibly be called 'vocational education'. This assertion rests on the analysis of 'skills' which now follows.

The language of skills

The interpretation of vocational education, used synonymously with vocational training, is given almost entirely in terms of skills in the White Papers cited above. Similarly, the aims and content for the YTS are based firmly on a Core Skills Programme, consisting of a set of 103 identified skills. This approach is in turn based on the influential IMS report, *Foundation Training Issues*. The language of skills is also employed in the 1985 White Paper, *Better Schools*, which talks of the 'skills and attitudes needed for adult and working life' and 'the issue of how best to fit work-related skills within full-time education'. In addition, the documents of both the FEU and the MSC have relied heavily on the notions of skills in describing aims and contents. I do not propose to analyse any of those documents in detail here. A detailed and rigorous analysis of the documents on which YTS is based, for example, can be found in Ruth Jonathan's.

This section will examine briefly the notion of a 'skill' and then go on to consider its father-figure, the generic or transferable skill. In so doing, I hope to show that a worthwhile vocational education can never be defined solely in terms of skills. The language of skills may be *necessary*, but it can never be sufficient.

In addition, a skill-based education may not be very valuable to employers, particularly those involved in new technology. The final sections of this chapter examine the value of the language of skills in matching education and training to the needs of employers in new fields such as information technology. My contention is that a narrow skills-

based definition of education makes neither conceptual nor economic sense.

The notion of a skill

The rigid knowledge/skill/attitude division is reminiscent of Bloom's three domains of objectives: cognitive, psychomotor and affective as well as psychomotor' — the skills of literary criticism, violin playing or counselling a patient are given as examples. This broadening of the notion of skill to include cognitive and effective aspects beings the notion which nearer to Ryle's concept of *knowing how* as opposed to *knowing that*. Unfortunately, this broader and more acceptable notion of skill is not applied in the *Skills in Schools* document, or the previous FEU, IMS and MSC publications on which it relies. This is clear from its definition of a skill: 'A skill is the ability to undertake an action under given circumstances to a defined degree of expertise'.

That definition clearly relies on a psychomotor notion of skill and a behaviourist-based view of education. Is skill necessarily tied to action? Can skill not involve 'mental action'? There seems to be no *logical* connection between a skill and a physical action. Can all skills be governed by a 'defined degree of expertise'? If so, where does this leave the mental processes in the exercise of a skill?

The bias towards behavioural and psychomotor skills is shown in the lists of skills which are given as part a possible 'core' of identifiable skills required by school leavers. Included in the list are such skills as:

Read and write numbers
Pull, push, lift and carry

Count objects
Cut materials with
scissors, shears etc.

In fairness, however, many of the 'core' skills are on a higher level and are listed as:

Give answers
Advise
Decide job priorities

Deal with complaints
Explain something
Describe or give information

But surely not one of the latter group of skills makes any sense or carries any meaning without a *context*. How can a person possess 'advising skill' which is context and knowledge *independent*? This is the first major point that I would like to propose in discussing the notion of a skill. A skill cannot exist except within a certain context, and within a framework of prior knowledge and understanding. How can a person 'decide on job priorities' without an adequate understanding of the relevant context, the necessary information and the prior knowledge of either facts or general principles?

This, in my view, is the essential mistake in the rhetoric of skills *i.e.*, the belief that a worthwhile skill can be separated off and defined in isolation from the context of understanding and knowledge which surrounds it. That mistake is made in both science and technology education. Lists of scientific skills are given for example, which include 'observation skills', 'the ability to hypothesize', 'predicting and informing', 'controlling variables' and so on. Yet not one of these science skills has any sense or meaning in isolation from the knowledge-base, framework or paradigm which forms the foundation of science. As Popper is so often quoted as saying, observation is theory-laden. The same is true of hypothesizing, inferring, controlling variables and all the other skills involved in science. A science or technology education which is biased totally towards skills will be as meaningless and empty as one which concentrates solely on content or propositional knowledge.

In short, skills without knowledge are empty. This will be particularly true in 'new industry', as I will argue later, which is by its very nature *Knowledge-intensive*.

Generic and transferable skills

Two criticisms of a skills-based approach to education and training are:

1. That it often produces lists of skills which, although easily definable, are often *trial and demanding*.

2. That a narrow, and 'specifically-stated, skills-based approach to training is hopelessly vulnerable to changes in society and in technology.

As Ruth Jonathan puts it, 'the more specific the skills, the shorter their useful life'. These twin criticisms of trivialization and vulnerability to change have pushed forward the notion of 'generic' or 'transferable' skills. These higher level skills are 'fundamental to the performance of a number of activities carried out in a range of contexts', and are significant for vocational education because they are 'generic to a wide variety of occupations and are transferable between vocationally specific areas' (Perry and Barnett 1985)

I would like to examine some of these generic skills and show that, as with specific skills, few of them carry meaning if seen as context and knowledge independent. To hold them up as educational goals in themselves, therefore, is both vague and conceptually unsound. Lists of generic, transferable skills often include the following.

problem-solving
planning
diagnosis

information handling
decision-making
communicating

Take 'information-handling', for example. This is often put forward as one of the key skills for the future, and who could doubt this is an age where information is said to be vital resource and where the possession of propositional, factual knowledge ('knowledge that') can only decrease in importance as an educational goal. Information skills will involve the ability to collect, prepare, code and retrieve information, in conjunction with the endless capability of new information technology to process and communicate this information. But information skills, vital though they may be in *serving* education, can never provide an educational goal in themselves. Information skills alone, without ends and purposes, have no meaning or value. They cannot exist in a vacuum. Education does not involve the *passive* handling and acquisition of information. Active and meaningful education

involves selecting, interpreting and transforming information according to the learner's previous experiences, present needs and purposes, and prior knowledge. Information skills are to caricature Popper, knowledge and context laden.

Similar points can be made about an equally valued generic skill, 'problem-solving'. Can such a skill be knowledge and context independent? In other words, can the ability to solve problems in one domain *transfer* across to another? The question of generic skills, therefore, rests squarely on a debate which is totally unsettled and indeed has occupied psychologists for much of this century: transfer of learning. This issue, like the heredity versus environment debate, is by its very nature unlikely to be decided conclusively. Perhaps the belief that skills can be transferred from one area to another is, like pseudo-scientific hypotheses, incapable of falsification. Yet the bulk of the literature which puts forward generic skills as the aims of education and training totally ignores the question of transfer.

The same question mark can be placed over the generic skill of 'decision-making'. Is there any evidence to show that decision-making in one domain, *e.g.*, the art of Cordon Bleu cooking, is transferable to another domain, *e.f.*, car repair and maintenance? Indeed how could such a belief ever be falsified let alone confirmed? Dearden makes similar points in discussing 'good judgement':

...simply because good judgement can be exercised in both the stock market and in landing a hot air balloon, it does not follow that there is some general skill of 'good judgement' which is common to both and in which we could be trained free from any particular context.

My contention, therefore, is that the language of generic skills can be criticized on two related counts. Firstly, skills of any kind are context and knowledge dependent - skills without knowledge are empty. Secondly, the belief that there are genuine, transferable skills which are the proper aim of education and training ignores the contentious question of transfer.

A third objection to the language of transferable skills, which is based on political grounds, is given by Cohen. He argues that many of the new initiatives in training are based on 'a hidden agenda for redeploying the notion of the skill itself'. By dissociating skill from specific practices and defining it in terms of 'certain abstract universals', a pool of 'abstract labour' can be created thereby undermining the control by skilled manual workers over conditions of entry and training in their own trades. This may well be as much a consequence of new technology, however, as a political ploy – a point which Cohen acknowledges:

What 'transferable skilling' corresponds to in reality is the process of deskilling set in motion by new information technologies.

The question of the relation of skills to the problems posed by new technologies will be returned to later.

A similar attack on the redeployment of the notion of skill is given by Ann Wickham in Dale. She suggests that the notion of skill has been redefined which, in turn, has given 'training' a new meaning:

In the past the notion of skill had been associated with craft work, with a combination of mental and physical dexterity in a particular area of work. Under the aegis of the Special Programmes Division (of the MSC) a much wider definition of skill came into use. Skill was regarded more as a way of organizing activity and involved a combination of what are now regarded as individual skills and general skills, that is numeracy, communication and practical skills, together with social and life skills, attitudes to work and a knowledge of working life. Training was ...given a new meaning which was removed from that traditionally used.

This redefinition of the term 'skill' can be seen in its recent broadening to include 'social and life skills', 'employability skills', 'communication skills', 'attitudes to work', 'preparation for life skills', and so on. It is as if the

concept of skill has ascended to a new level to embrace not only competencies but also abilities, aptitudes, dispositions, and attitudes. It needs only to subsume the concepts of knowledge, thinking, understanding and motivation to have taken over as an umbrella term covering the whole of education. We may soon be talking of the skills of understanding and knowing just as we already talk of thinking skills, reading skills, social skills and even moral skills.

Hart argued with emotion against such distortion of language:

If you don't hold out against talk of 'skills', if you don't see that 'skills' only account for part, and that the less important part, of what we learn, you are driven to conclude that there is nothing for which a man can be held responsible or in which he can see himself mirrored.

Hart's paper makes two valuable points. Firstly, that talk of skills 'is simply a kind of incantation, by which one creates the illusion that one is actually saying something about education'. In other words the addition of the label 'skill' actually adds nothing descriptive. How, for example, does 'reading' differ from 'reading skill'? The same is true of the language launched by Callaghan's great debate. Much talk was, and is, heard of 'relevant skills'. Those terms have yet to be given any concrete, descriptive meaning. Indeed the noun 'relevance', and the adjective 'relevant', have no meaning on their own. Like the term 'skill', they are almost always used as terms of incantation, a seal of approval, having no descriptive but only emotive meaning. To describe a skill as relevant is meaningless. We need always to ask the questions 'relevant to what?' and 'relevant to whom?'. This confusion over relevance is particularly important in considering the 'skills relevant' to new technology.

Hart's second main point, as I interpret it, is that the acquisition of skills is, in a sense, an activity of tackling on of appending skills to bodies. It is largely *impersonal* process. In

contrast, truly educational processes will profoundly affect and alter the person involved. This is not true of skills, as they are traditionally conceived:

...education, whatever else is involved in it, is about the individual person and his development; and it's been my contention that a skill can contribute to that development, the continual forming and reforming of the person. So that when receiving an education is conceived of, as it is so often today, in terms of acquiring skills, it is conceived of as something superficial.

This point leads in to the next two sections of the chapter. Does industry want bodies with skills 'appended' to them? Do employers in fact phrase their requirements in the language of skills? Does it make either practical or conceptual sense to discuss the needs of new technology in terms of 'relevant skills' and 'skill shortages'.

The language of skills and the needs of employers

An important article by Gilroy discusses the value of conceptual analysis in clarifying the work done in empirical research—similar points are made by Barrow in *Giving Teaching Back to the Teachers*. Gilroy implies, however, that it is not only the 'philosopher' who is 'competent to identify and resolve linguistic confusion.' There is a role of the 'empiricist as philosopher' as he expresses it, in direct contract to John Locke's under-labourer conception of philosophy.

This is surely the case in examining the language of skills. Armchair analysis may be necessary but it is not sufficient. Valuable progress can be made in my view, by interviewing employers in depth to probe their 'needs' and requirements and in particular (in this context) to examine the language in which their needs and demands are actually framed. One such study, albeit on a small scale, is reported in Wellington, and is summarized below.

It is clearly a huge task to identify the 'needs' of employers in terms of the skill which they require of school-

leavers and trainees. The range of employers will be so vast in terms of numbers employed, on-the-job skills, and the nature of employment that there may be no common ground. With this provision in mind, a pilot research project was carried out which involved detailed interviews with a small sample of employers from service industries to so-called high-tech employers.

The interviews were conducted in a fairly unstructured way, although some specified questions were asked of all the staff involved. The person approached and interviewed was in each case the 'development and training' or personnel officer of the company. In fairness to those interviewed no specific comments and quotes will be included here—I will simply sum up some of the general principles which came through strongly, and also select some of the more interesting remarks on skills and specific training which relate to earlier parts of this paper.

The strongest message which came through in this pilot study is that the needs of these employers are not framed in terms of *skills* required of school leavers - their requirements are always stated in the language of *attitudes* and *dispositions*. This is perhaps the most important message as a response to 1981 and 1984 White Papers—they are making a basic 'category mistake' in framing the needs of employers and therefore of vocational education in terms of skills. What employers seem to be demanding of school-leavers and YTS trainees, is a collection of general attitudes and dispositions. The 'attitude' which came at the top of the list was 'interest and motivation'. This was felt to be the most important quality in a school-leaver. Other attitudes and dispositions considered important were: initiative, confidence, self-belief and maturity.

In none of the interviews were skills specifically mentioned. Each of the employers interviewed was asked which skills they required of new employers—non listed skills other than numeracy and literacy, which (incidentally) they felt were of the required standard in the young people

they appointed anyway. The so-called high-tech employers were asked specifically about 'computer literacy'. Did they want their employees to be 'computer literate' before joining the company? This notion was dismissed. The kinds of 'computer literacy' (a virtually indefinable notion anyway) they might receive before employment was not felt to be of use once they had joined the firm.

One rather depressing comment was made by a national high-tech employer. They suggested that school-leavers were not likely to be taken into the high-tech side of the industry at all. Recruitment to this facet of their company would be entirely at graduate level and above. Even then (incidentally) the graduates appointed would not necessarily be in Computer Science, who were often receiving training in the wrong computer language *e.g.*, Pascal rather than Cobol.

Some of those interviewed did comment, of their own volition, on the Youth Training Scheme. They saw YTS largely as a grading or interviewing system which enabled them to 'have a good look' at a prospective employee. They felt that it was an ideal opportunity to see if that trainee had the right attitudes and dispositions, such as those already mentioned. One described YTS as a 'year-long interview,' a comment which has since been used by many employers.

I would not suggest that this small empirical enquiry with its small sample could be used to form any definite conclusions on the requirements of employers. However, I would suggest that the study does indicate a gap between the language used in statements and documents on pre-vocational education and the language in which employers and industry couch their requirements. In particular, the study posed the following questions. Should discussions and statements on vocational education be framed in the Callaghan language of 'skills', 'relevant training' and 'tools-for-the-job'? Or should the aims and philosophy of vocational education be couched in terms of attitudes and dispositions? Is there any sense in the notion of 'relevant skills' or 'skills for the future' in a society which may be entering a new phase? If not, then what

meaning does the very notion of 'pre-vocational education' hold? With an increasingly uncertain future for employment, depending more and more on the rapidly changing field of information technology, does the notion of *vocational training* make economic, let alone conceptual sense?

These questions will be discussed in the final two sections of this paper, firstly by considering the likely 'skill demands' of new technologies and then by sketching the response of Japan to the education and training needs imposed by technological change.

Skill demands and the new technologies

The 1981 campaign to install microcomputers in all of Britain's schools was accompanied by a wave of uncritical enthusiasm and a flood of rhetoric regarding its vocational significance. Kenneth Baker, the new Minister for Information Technology typified the political mood of the time:

...I want to try and ensure that the kids of today are trained with the skills that gave their fathers and grandfathers jobs. It's like generals fighting the battles of yesteryear. And that is the reason why we've pushed ahead with computers into schools. I want youngsters, boys and girls leaving school at sixteen, to actually be able to operate a computer.

That optimism for the vocational significance of the computer permeated into many of the two million or more households which subsequently acquired computers, and largely caused the unprecedented growth of Computer Studies as an examination subject. The unquestioned connection between computer education and the world of work also surfaced in the plethora of books discussing the use of computers in schools. Mullan, for example, even drew a connection between primary children's use of the microcomputer and the use of the computer in the world of work which they must experience:

If children meet the microcomputer in an exciting and pleasurable role in school then one could argue that there is a greater likelihood of them accepting it as an aid in the world of

work which they must experience in the future.

The unquestioned belief in the vocational significance of information technology also affected deeply both the thinking and the publicity associated with the two key innovations in vocational education: the YTS and the TVEI. Finn writing in Dale, discusses the publicity at the launch of the YTS which 'attempted to associate it with the new technologies at the forefront of employment creation'. This publicity has continued in the same vein with the advent of the two-year YTS, a publicity drive which is analysed in the following section. Similarly, the drive behind TVEI depended to a large extent on its perceived links to new technology and in particular to IT. Dale, in discussing the background to and inception of TVEI, diagnoses one of the key factors behind the initiative as the continuing emphasis on 'high-tech' industry in the early 1980s. This in turn led to the belief 'that future employment prospects are likely to be most propitious in IT-based industry and commerce'.

This is a belief which requires thorough and critical investigation. The links between information technology in education and information technology in employment have never been fully and critically examined. There is simply an implicit and unquestioned belief in the minds of many people (parents, children, teachers and policy-makers) that IT education at any level will make its recipients more employable. That belief has provided the main impetus for much of the information technology education in schools, colleges and ITECs.

The purpose of an ITEC have been described by Smith. Their aim is:

to provide young people with the *new skills* necessary for Britain to take a leading part in the technological revolution.

But what are these 'skills', and at which levels of education are they required? The question can be explored in two ways. Firstly, by considering recent documents and

reports on the links between IT in education and industry. Secondly, by a full scale empirical investigation into the perceived 'skill demands' of employers in IT, their current recruitment patterns at various levels, and the relation of those demands to the range of IT education currently offered in our education and training schemes. An empirical investigation along those lines was launched in April 1986 at the University of Sheffield, and its findings will be published in full elsewhere. However the first method of tackling the question will be discussed briefly here, by considering two recent publications. A crucial document was published in August 1984 by the Economic Development Committee entitled *Crisis facing UK Information Technology*. This publication described the critical skill shortage in Information Technology which is apparently holding back the UK industry:

Too often contracts are being lost, and employment opportunities lost with them, because of the lack of a few key engineers.

But at what level are these skill shortages? The answer given by this document is that the shortages occur at *graduate level and above*. For example:

The problem is critical even before the effects of the University Grants Committee cuts have really shown in graduate output.

In other words (according to this document) the critical skill shortage holding back the UK 'Information Technology Industry' is clearly not at the level of 16 or 17-year-old school leavers who are likely to opt for the YTS. It is at the graduate level, of a 'few key engineers'. Skill shortages at this level, according to the document, are resulting in a lack of demand for the employment at *lower levels*. This is perhaps a more *subtle* version of the skills-deficit model of unemployment, *i.e.*, lack of the right skills at graduate level leading to a lack of demand for labour at lower levels. This more subtle version of the skills-deficit model, however, is not even hinted at in the 1984 White Paper.

The EDC report also includes a passing criticism of vocational education and training:

The UK has a multitude of institutions and agencies engaged in education and training but they appear to have difficulty in responding to the now very insistent signals from the market for skilled people and developing a consistent response.

But what 'signals' are being sent from the market for skilled people? What skills do employers actually require, or at least *say* that they require? This is clearly a case where the rhetoric of skills and skill demands needs to be transacted into reality. Clear signals are needed from employers so that education can be expected to develop a 'consistent response'. There can be no substitute for empirical investigation here.

A second key publication in predicting the 'skill demands' of new technology is the report of the Alvey Committee on the future of IT and so-called fifth generation of computers. This vital report is given further consideration in the next section, but its major themes can be introduced here. A large proportion of the report was devoted to the education and training which would be needed to provide the human resources for Britain's advanced information technology programme in the 1990s. Perhaps the crux of the whole report for the future of education in IT is contained in one short statement: 'Information Technology is knowledge intensive'. In other words, IT industry is *not labour intensive*. The addition of skilled personnel for Britain's advanced IT programme is quantified by Alvey in terms of *thousands*, not even tens of thousands. At what level are these personnel required? Alvey suggests that 'urgent action is needed in the higher education sector':

Restrictions on expenditure in higher education, whatever the intentions, have tended to fall across the board. It has not escaped.

So what action can be taken for students in the 14-18 year old range of education and training? Alvey's response is one

of the most quoted sections of the report:

... it is no good just providing schools with microcomputers. This will merely produce a generation of poor BASIC programmers. Universities in fact are having to give remedial education to entrants with A-level computer science.

Where does this leave the emphasis on 'information technology skills' and 'computer literacy' at the heart of YTS schemes, the ITECs and the new TVEI? My own view, which I have argued elsewhere (Wellington 1985a), is that *education* (not training) in and through information technology should be seen as a valuable end in itself. It can enhance traditional educational aims but should never replace them. The vocational significance of IT has for too long been overemphasized or, indeed, 'hyped up' by the media, by politicians and even by parents. The best way in which education can support the essential growth of IT in Britain's economy is by providing a sound general education for all pupils. This is precisely the pattern in the education system of Britain's Eastern competitor in IT, Japan.

Lessons from the east: the Japanese approach to skills and vocational education

A full-page advertisement began to appear in the newspapers early in 1986, from *The Mirror* to the so-called quality dailies such as *The Guardian*. The advert warned the Japanese of the advent of Spikey Dodds, Tracy Logan and others with names like Joe Bloggs, about to embark on the new two-year Youth Training Scheme, Spikey Dodds, for example, will 'begin his course by trying out several different skills before he chooses the one he'll train through to the end of the second year'. By the end of this course he will have 'a skill, a certificate to prove it, and a better chance of getting a job'. This may well prove true, though as yet there is little evidence to support such optimism. But the point I would like to take issue with comes in the next paragraph of the advertisement:

Our competitors in the Far East and Europe have been

training their young people like this for years.

Presumably, one of the countries implicitly referred to here is Japan. The suggestion, therefore, is that Japan's education system has been training youngsters' by allowing them to 'try out several different skills' before choosing the one which they will train for and obtain a certificate in. This is patently untrue, and I will not need to exhumate publications from university libraries to prove it. A series of articles on the evolution of Japan's education occurred in *Look Japan* from May to December 1983. These articles, written by leading Japanese economists and educationalists, indicate that the skills-based vocational training alluded to in the YTS advert may have taken place in the 1960s and early 1970s but has now been superseded by a totally different educational drive.

School education now provides both general and vocational courses at the secondary level, but the general public tends to regard the former as preparing intelligent youths for university entrance and accordingly for better employment opportunities and the latter as accommodating the less intelligent who are to enter lower level occupations. Industry generally expects schools to turn out youths with a good level of academic achievement and adaptability and does not attach much importance to pre-employment training designed to prepare young people for specific occupations.

The first sentence of this paragraph gives an early warning of the potential divisiveness of vocational curricula, discussed five years later in *Times Educational Supplement* articles on studies of the new TVEI. The second sentence indicated that the world's most successful industrial nation would encourage its youth to follow a general education rather than vocational training in the 1980s. This view is made crystal clear later in the document:

... the emphasis (in school education) is on developing general intelligence rather than specific skills.

The 1981 statements have since become reality. In 1985,

no less than 94 per cent of Japanese students stayed on for 'senior high school' after leaving the compulsory junior high school.

Despite Government effort to make work-related courses more attractive to students, the vocational high schools are still generally viewed by pupils, parents and employers as being second-best. The demand for place at vocational schools has declined, and many entrants are students who have failed to gain entry to a general high school.

Such enduring attitudes are coupled (both as a cause and as an effect) with the huge growth in Japan's higher education, sometimes called its 'transfer to a higher education society'. The proportion of the relevant age-group staying on for higher education in 1985 was just under a remarkable 40 per cent compared with just over 20 per cent in the United Kingdom.

An important part of Japan's higher education in ensuring its industrial success was, of course, the high-level engineering education provided. At the start of the 1980s Japan's total output of graduate engineers was between five and six times higher than ours at about 75,000, compared with Britain's 13,000. This poor comparison still continues at a time when Britain's information and manufacturing industries are desperate for electronic, electrical, mechanical and software engineers at graduate level.

Britain's principal area of competition with the Japanese in the next decade will almost certainly be in the area of information technology. The Alvey Report indicated Britain's needs for the future:

... there is a requirement for a new breed of information engineer' with a wide understanding of the potential applications of IT to industrial needs. The supply of graduates with skills relevant to IT must be increased. The undergraduate output is currently some 6,500 per year. This is wholly inadequate to meet our future requirements.

How has Britain answered Alvey's plea?

The central response to the keenly felt need for IT education has been to provide every school in the country with at least one computer and some with as many as thirty or forty. Britain's populace now has the largest number of home computers per head in the world. This is in direct contrast to the Japanese approach to computer education. The 1984 *Japan Educational Journal* reported that only 0.1 per cent (*i.e.*, on in a thousand) of its primary schools had microcomputers at that time. Less than 2 per cent of its lower secondary schools had computers, though the figure reached 45 per cent in its upper secondary schools. However, the computers in the latter area were used largely as an administrative and management tool. The motions of 'computer studies' 'computer literacy' and 'computer-related skills' so widespread in this country, have no place in the Japanese approach to education:

The school curricula in Japan are designed to give children a broad and basic knowledge which is necessary in order to grasp and enjoy a wide range of ideas and activities. In the field of science and technology, Japanese children are taught concepts, principles and laws of basic sciences and mathematics, which are the basis of industrial technology. Computer technology is not yet considered to be part of the required 'basic knowledge'.

It seems that the abacus is a more common learning tool in Japanese schools than the computer.

I am not suggesting that we should attempt to copy Japan's approach to computer education, or its education system in general. Britain's culture, its hidden curriculum and its material resources are too vastly different to make that a possibility. I am suggesting that we should radically re-think our approach to vocational education in the light of lessons learned from the Japanese, and in view of our need to compete with Japan in the development of new 'knowledge intensive' industries.

It makes little sense to base a new and expensive programme of skills-based vocational training on a view of a system 'in the Far East' which is at best out-dated and at worst purely fictional.

Determining Vocational Curriculum Content

Determining curriculum content for vocational and technical education is very rewarding and yet extremely frustrating. The rewarding aspect is the final product: content that may be actually used in the instructional environment to and vocational students in achieving their fullest potential. The frustrating aspect of determining curriculum content consists of identifying that which is truly relevant to *both instructional and occupational settings*. The paragraphs that follow focus, directly on these concerns. Initially, consideration is given to the factors associated with curriculum content determination, including constraints placed upon the curriculum developer. Next, areas of concern associated with selecting a meaningful content derivation strategy are discussed. Finally, a number of strategies are presented, each of which serves as an alternate route to determining meaningful curriculum content.

Factors associated with determining Curriculum content

Perhaps it seems that one could just sit down and decide which content is most important to include in a curriculum, but this impression is far from reality. In a typical educational setting, the curriculum developer is confronted with a variety of factors that may affect the task of determining what should actually be taught. These factors may have great impact on the direction one takes when establishing a content

framework. Idealistically, the developer may have unlimited resources and flexibility to shape content in the ways he or she wants to; however, real-world considerations often dictate the scope of the content determination process. Factors such as time and dollars available; internal and external pressures; federal, state, and local requirements; skills needed by employers, academic and vocational education content concerns; and the particular level of content all have potential to affect the means by which content is determined for a particular curriculum.

Time and dollars available

Time becomes a critical element in the entire curriculum development process and is obviously a key concern when content is to be determined. The curriculum developer typically is not able to spend an unlimited amount of time deriving content to be taught. Instead, he or she is usually given a prescribed amount of time within which to establish content. This may be a day, a week, a month, or a year, but time is, nonetheless, a finite entity that affects the content determination process. A developer who is given two weeks to establish content for a curriculum will, in all likelihood, use a content determination strategy that can be executed in a relatively short period of time. On the other hand, an individual who is able to spend a year at this same effort has a variety of options available as far as strategies are concerned.

The dollars a developer has at his or her disposal to use in the content determination process can, likewise, affect the scope of a particular effort. Time and money are often considered synonymous in education, since professional salaries constitute such a large portion of the overall budget. Within this context, however, money may be considered in connection with the purchase of items such as travel, printing, postage, secretarial assistance, and the hiring of temporary personnel and/or consultants. When one is examining the ways content might be determined, money is a key factor, since the amount actually available tends to dictate which

content derivation strategy is used. Some strategies require no additional funds over what may be available in a typical educational institution's budget. Others require extensive travel or mailings to gather information and, consequently, demand that additional dollars be made available. Thus, the curriculum developer must be very much concerned about time and dollars available in support of content determination activities. Each of these areas is a constraint placed upon the developer that must be dealt with logically and thoroughly as content is being determined.

Internal and external pressures

Another factor related to determining curriculum content consists of the subtle pressures exerted by individuals and group from within as well as outside the educational environment. Certain individuals or pressure groups may feel it is in the best interests of themselves or others to support inclusion of certain content in the curriculum. The reasons behind this sort of support are numerous, since local situations and personalities often enter into the process. Reasons may range from honest concern for students' welfare to quasipolitical tactics. Regardless of the reason behind such pressure, the curriculum developer must recognize that in some cases the cause supported by certain individuals or groups may not be in the best interests of students. For example, emotional concern about content that might be included in a curriculum is no substitute for systematic content derivation. This is not to say that concerns of this type should be ignored. The contemporary curriculum developer must maintain an open mind and search for meaningful curriculum concerns that individuals and groups might process.

Pressure in support of certain content might be exerted from within an educational environment by several sources. Administrators, vocational and technical teachers, academic teachers, guidance counsellors, students, and placement specialists may each feel that certain content must be included in a curriculum and strongly support that conviction. A major

responsibility of the curriculum developer is to sort out these concerns and determine which are valid and which are not. If this critical analysis is not accomplished, an invalid concern might receive widespread support and actually be included as content in a curriculum. When a situation such as this occurs, students as well as the school may suffer the consequences.

Pressures from outside the educational environment may emanate from areas such as businesses, industries, self-employed persons, professional organizations, unions, and advisory committees. Since every vocational curriculum must be responsive to the world of work, concerns from these areas cannot be ignored. In certain situations where pressure for specific content is applied from an individual or group outside the educational environment, the validity for a claim must be established. It might be that a particular business firm supports the inclusion of curriculum content dealing with word processing, since they have a need for competent workers in this area; or an occupational advisory committee might believe that metrication should be an integral part of building construction curriculum. In either case, such concern might be valid and should, therefore, be verified during the content derivation process. Working with the public is an ongoing responsibility of vocational educators and handling the concerns of lay persons is just one part of this responsibility. The curriculum developer must be responsive to public concerns and pressures by examining their implications and determining which claims are valid and justifiable.

Federal, state, and local content requirements

Curriculum content determination is seldom made solely by a curriculum developer or teacher group. In numerous occupational areas there are content requirements specified that serve as a basic framework for curricula. These requirements, which may already be established at the federal, state, or local level, tend to limit the extent to which a curriculum developer can become involved in the content

determination process. For example, the Federal Aviation Administration (FAA) specifies the content and hours of instruction required of a person before that individual may be qualified as an aircraft mechanic. This content has been established through national surveys of people working in the occupation. Obviously, major departures from prescribed FAA content might affect not only graduates' competence but also their licensure as aircraft mechanics.

A similar situation exists at the state level with regard to certain occupations. State regulations often specify the content and hours of instruction that must be included in nursing and cosmetology programme and examinations administered at the state level tend to focus on this content. Consequently, there may be few changes one can make in curriculum content in such areas as these.

State-level content requirements may also be seen in the general education area. The specific general education courses required for completion of an associate degree or high school diploma may be contributing or limiting factors in the design of a relevant curriculum. Excessive general education requirements can limit the extent to which vocational and technical content is provided. Likewise, requirements for extensive vocational and technical content may adversely affect students' general educational development through restriction of course selections.

Local content requirements tend to parallel job opportunities in the particular geographic area. If industries in a locale are heavily involved in the production of textiles, providing relevant core content for all students planning to enter this occupational area would be appropriate. Arrangements might be made with local unions to give credit toward the completion of apprenticeship programme if certain content requirements are met while students are still in school. The content ties between school and work not only benefits the graduate but the employer, the school, and the community. Whereas local content requirements are of a more informal nature, they are equally as impor-

tant to curriculum building as state and national requirements.

Skills needed by employers

In a basic sense, much of the vocational education curriculum content is aligned closely with employers' needs. This focus exists so the educational institution may provide its students with content that is work-place-relevant. Unfortunately, individual employers may not have the most progressive view of what skills their workers need. Factors such as the evolving nature of the workplace and the time lag in knowledge dissemination cause some employers to fall behind others in terms of understanding workplace needs. This is particularly true of future worker needs since employers are more likely to focus on the present rather than the future.

Thus, in the determination of curriculum content, consideration must be given to future as well as current employer needs. This task is made easier through the use of content determination strategies such as the Delphi technique that focus what workers may be doing in the future. However, more general views of the current and future workplace may be drawn from studies that focus on entire industries or businesses or employer at-large. These studies can provide the curriculum developer with much valuable information about current and future employer needs that may not be discovered through contacts and discussions with individual employers and workers.

One such study, conducted by the American Society for Training and Development), focused on workplace basics: skills that employers want their workers to have. It is revealed that basic skill requirements will continue to increase in a wide variety of occupations and that the preparation of skill and craft employees with better basic skills may assist America in regaining its competitive advantage. Provided in the ASTD report are descriptions of what employers want. These are organized into a hierarchy

of seven skill groups ranging from most advanced to most basic. The groups include:

- Organizational Effectiveness/Leadership;
- Interpersonal/Negotiation/Teamwork;
- Self-Esteem/Goal Setting-Motivation/Personal and Career Development;
- Creative Thinking/Problem Solving;
- Communication: Listening and Oral Communication.
- 3 Rs (Reading, Writing, Computation)

Learning to learn

Learning to learn is most basic to employees because it enables them to achieve competence in other skills. On the other end of the continuum workers who are skilled at organizational effectiveness and leadership can contribute more effectively to employer success in the marketplace. As the curriculum content determination process proceeds, it is important to recognize the basic skills that workers must demonstrate in the workplace. The skill groups provided by ASTD can serve as a meaningful foundation for curriculum content section and delivery.

A different set of studies presented by Bailey further supports the changing nature of the workplace. Bailey and his colleagues conducted extensive examinations of jobs in four employment sectors apparel, textile, banking, and business services. It should be noted that the nature of work across each sector was examined and information could therefore, be gathered about how jobs are changing and how they will change in the future. The studies strongly support the notion that jobs of the future will require greater and not less skill and that this will occur across both the service and manufacturing areas. Instead of the traditionally held notion that jobs will become deskilled, curriculum developers must recognize that future jobs will require workers to perform a broader range of skills and to demonstrate them at higher

levels. Employees must be able to change and develop as an industry or business evolves. Workers of the future should expect their jobs to be more demanding. They must be able to work efficiently as members of teams "manage more-frequent and more-complex interactions with other individuals, perform a greater number of frequently changing tasks, and otherwise operate in a more uncertain and less well-defined environment". Workers will, additionally, be required to make more individual initiative and must have a clear understanding of the overall processes, products, services, and markets associated with their employers' firms. The implications for determining vocational education curriculum content are indeed great. Information reported by Bailey as well as Carnavale *et al.*, point to a need for aligning curriculum content with the rich context of the workplace. Thus, although specific tasks, skills, attitudes, values, and appreciations will continue to be important, other capabilities that are needed to survive and grow in the ever-changing workplace will become even more critical. These workplace basics and skills of the future must, therefore, be firmly embedded in the vocational education curriculum.

Academic and vocational education content concerns

As noted earlier, employers currently need and will continue to need workers who can demonstrate facility in mathematics, science, and communication skills, and this need will continue to grow as the workplace continues to become more and more complex. This situation, coupled with the overarching responsibility of education to prepare persons for both having and earning a living, presents educators with a thorny problem how to prepare students in terms of both the academic and the vocational education aspects of the curriculum. Concerns related to this area have evolved into the concept of integrating academic and vocational education. Integration essentially means that academic and vocational education contents are brought together and taught together in such a way that the content in each area

becomes more relevant. By providing more relevant contexts for both academic and vocational education content it is anticipated that students will learn more and at a more rapid rate than under more-traditional instructional conditions. Since it may be important to identify relevant academic content concepts during the content determination process, the curriculum developer must be aware of specific academic content needs and plan accordingly. For example, if mathematics is to be integrated into a new drafting and design programme, the developer may choose to modify drafting and design content determination processes so that mathematics content will emerge instead of remaining firmly embedded in vocational education content. To accomplish this, survey or interview forms can be modified or the curriculum content focus can be broadened to embrace mathematics in a more holistic manner. Basically, the curriculum developer should recognize that when content is being determined it is an opportune time to obtain relevant information about academic as well as vocational education content.

Level at which content will be provided

A final factor related to curriculum content determination is the level at which that content will be provided. These different levels have direct impact on content, with the impact being felt in rather subtle ways. At the secondary level, students' educational needs tend to be more basic. Although some students may progress more rapidly to advanced studies in technical areas, the majority focus on developing those academic or general and technical competencies associated with the entry-level work. Instruction is generally geared towards preparation for a specific occupation or closely related family of occupations or, in terms of Tech Prep programme, preparation for an associate degree in a technical field. At the post-secondary level, students are typically those who have completed high school and have chosen to pursue education beyond that level. The post-secondary student is usually older and more

mature. Thus, content must focus on the needs of this type of student. In many instances postsecondary vocational and technical education prepares students for an occupational field rather than for a specific occupation. If this is the situation curriculum developers find themselves in, content needs to be identified which has high transferability to a number of occupation within a field.

Selecting a curriculum content determination Strategy

The actual selection of a curriculum content determination strategy appears simple. However, the selection process can be quite complex with the degree of complexity dependent on a variety of concerns. Of immediate concern to one who is selecting a strategy are the aforementioned factors time and dollars available; internal and external pressures; federal, state, and local content requirements; and level of content that may impact on the content determination process. Each of these factors can affect the decision that is ultimately made, and, therefore, all factors should be examined closely and information about them saved for future reference. Once the various factors associated with determining content have been examined, the developer may focus on three additional areas of concern: the educational setting; the occupational setting; and the content determination strategies available. Each of these concerns is discussed in the paragraphs that follow.

The education setting

The setting in which curriculum content will be implemented is most important to study. This enables the curriculum developer to determine which aspects of the setting may affect selection of one strategy over another. Although there are a multitude of questions one might ask about how the educational setting relates to curriculum content, some likely examples might be: What is the current educational philosophy of the school and the attendance area? What support for vocational and technical education emanates from the educational community? To what extent

will teachers and administrators assist in the content determination process? How well will educators accept the results of systematic curriculum content determination? These are several questions a curriculum developer should pose.

The occupational setting

The occupational setting represents another area of concern for the curriculum developer. As with the educational setting, those aspects of the occupational setting that may result in a better strategy choice must be identified. Several of the questions one might ask about relationships between the occupational setting and curriculum content include: Is the occupation clearly identifiable or is it emerging? Can workers in the occupation clearly identifiable or is it emerging? Can workers in the occupation be interviewed by telephone or face-to-face? Will permission be granted for workers to complete survey forms and questionnaires? To what extent will businesses or industries assist with data gathering? These are the types of questions that should be asked by the developer as he or she begins to focus on the ways content may be determined.

Content determination strategies

A final and most important concern is with strategies that may actually be used to determine curriculum content. Each of the various strategies will be described in detail later in this chapter, but one must first see how these strategies are similar to and different from each other. If we were to draw a straight line and place "more subjective" at one end and "more objective" at the other, we would have a continuum along which each of the strategies could roughly be placed. The *philosophical basis* for determining content is perhaps the most subjective strategy, since a specific philosophy or set of philosophies serves as a foundation for content decisions. This strategy is most typically used to develop curriculum content in academic areas. *Introspection* is used by an individual or group to examine personal experiences and

knowledge and to incorporate these into a framework for the vocational curriculum content. This strategy may be classed as quite subjective, since very little (if any) "hard" data are used in the decision-making process. The *DACUM* content determination approach utilizes occupational experts to derive relevant content. Its focus is on development of a single-sheet skill profile that serves both as a curriculum plan and an evaluation instrument. *Task analysis* focuses on the identification and verification of tasks performed by workers in a certain occupation or cluster of occupations. Its procedures enable this strategy to produce quite objective data related to worker tasks. Several other meaningful strategies may be considered by the curriculum developer. This include the *critical incident technique* and the *Delphi technique*. The critical incident technique is useful in identifying curriculum content related to worker values and attitudes. Content in emerging occupations may be identified via the Delphi technique.

The observation may be made that the more objective curriculum content strategies are, the more costly they are to use. For example, task analysis is a very objective process, but this objectivity is obtained at a high cost, since one must send materials or travel to locations where workers are employed. The philosophical approach is very inexpensive and the small investment yields a meager return in terms of objectivity. Realistically, the curriculum developer should *consider using several strategies*, since each has its own particular strengths and weaknesses. When several strategies are used, there is a much greater likelihood that the content developed will be valid.

Philosophical basis for content determination

Philosophy appears to have had the greatest history of affecting curriculum content decisions. Before more sophisticated means of determining content were established, philosophy served as the guiding light for curriculum developers. Even today, the philosophy of vocational education espoused by a particular school, school

district, or community college may provide a framework for the various curricula offered. Most of the general education offerings found in our schools today are based solely upon teachers', administrators', and/or school board members' personal philosophies of education. Thus, the fact that philosophy can and often does serve as a foundation for curriculum content is quite evident.

Establishing a philosophy

A detailed discussion dealing with philosophical foundations of vocational education is beyond the scope of this volume, however, focusing on some examples of philosophy is certainly appropriate. These serve to illustrate the ways that a philosophy might be specified. One must keep in mind that a person's philosophy is basically that which he or she believes. We may say that a philosophy is composed of several belief statements, each of which contributes in some way to the overall makeup of the philosophy. Philosophy tends to vary from individual to individual and group to group just as might be expected of such a value-laden area. Therefore a group may have difficulty reaching consensus regarding some belief statements whereas other statements may be agreed upon unanimously with little or no discussion.

The establishment of belief statements is a rather straightforward activity. Various sources are examined to identify statements that might align with one's personal philosophy. Textbooks, articles, and speeches can all serve as useful sources of information. Philosophies developed by professional associations, community colleges, school districts, and similar units provide a wealth of potential belief statements. Whatever sources may be used, it is important to recognize that these statements represent a potential philosophy. Eventually, a group of concerned and knowledgeable persons must examine each belief statement and agree as to which ones will constitute a philosophical base for the curriculum.

A literature search might serve first to clarify the

characteristics of vocational education. For example, a review of numerous sources that included individuals, organizations, agencies, and federal legislation served as a basis for the following statements about vocational education's character:

1. Preparation for gainful employment that requires less than the baccalaureate degree;
2. Can include the development of academic skills in concert with development of specific occupational skills;
3. A lifelong set of learning experiences ranging from occupational exploration and preparation to on-the-job development;
4. May serve to link occupational preparation at the secondary and postsecondary levels;
5. Provides a foundation for an employment career in addition to preparation for an entry level job.

The foregoing serves to illustrate how a basic curriculum framework may. If, for example, we believe that vocational educational involves preparation for gainful employment," our belief should certainly have an impact on the curriculum that is established. Based on this belief, any vocational curriculum content that does not relate in some way to the work environment should be seriously questioned.

Belief statements may take many forms. The following represent a number of possibilities in this regard and, in some cases, serve as sources of other belief statements:

1. Each person should be educated in the least restrictive environment in which that person's educational and related needs can be satisfactorily met;
2. Secondary vocational education courses should provide instruction and practice in the basic skills of reading, arithmetic, speaking, listening, and problem solving;

3. Lifelong learning is prompted through vocational education.

These statements are but a few of the many that may be drawn from the literature and used as a foundation for the vocational curriculum. Dedication to the task of identifying belief statements such as these will ensure that a comprehensive philosophy is developed.

Philosophy as related to curriculum content

Once belief statements have been identified, agreed on, and moulded into a philosophy, content may then be identified that aligns with this philosophy. As this process begins, it is almost immediately realized that belief statements are rather broad and tend to cut across several content areas, whereas the technical content appears to be more specific to the individual curriculum. This, perhaps, indicates a basic strength and weakness of the philosophical approach to content determination. The strength has to do with the way a philosophy can permeate an educational institution. A philosophy can, for example, direct the focus of curricula within a school better to meet the needs of groups such as women minorities, and the handicapped. If those who oversee the operation of a school firmly believe in the statement that "vocational education should be available to all those who can profit by it," their actions should be directed toward the establishment and maintenance of curricula for these groups. This does not mean merely providing a few token offerings but actually aligning curricula with students' needs on a large-scale basis. If it is stated in a philosophy that "a comprehensive placement service should be provided to both current enrolled and former students," then action should be taken to establish the type of service to align with each curriculum.

These few examples serve to illustrate the broad impact that a sound philosophy can have on curriculum development. However, this impact is not as great in the area of specific technical content, and here is where problems tend

to arise in relating philosophy to content. The general nature of a belief statement may not describe specific competencies needed by an individual in the work environment. Thus, the curriculum developer must speculate about what the specific competence should be and hope that this speculation results in the identification of appropriate content.

Introspection

The introspection process basically consists of examining one's own thoughts and feelings about a certain area. However, within the context of curriculum content determination, this strategy may involve either an individual or a group. The person or persons engaged in introspection are typically vocational teachers who each ask themselves the basic question, "What do I feel should constitute the content of this curriculum?" Then a search is made of one's personal employment, teaching experiences, and education to identify what might be most appropriate to include as curriculum content.

The introspection process

Introspection typically begins with an examination of ongoing vocational programme and literature related to them. This serves to remind the developer of what content might possibly be included that he or she would not otherwise recall from past experiences. The examination of literature and observation of programme might include travelling to other locations and talking to those who are involved with relevant curricula or examining course catalogue and outlines from other institutions. Concurrent with this, magazines and other related sources are reviewed to identify "ideas" for curriculum content.

Once the examination is complete, the developer considers what content might be best for students, using subjective judgment as the decisive element. Consideration is given to both the education process and the result of that process from the perspective of an experienced vocational

teacher. Eventually, a content outline is developed that serves on the basis for the curriculum.

Introspection often becomes a group process where several teachers develop their individual thoughts regarding curriculum content and then need to decide collectively what form the curriculum should take. This procedure has the advantage of providing a variety of inputs from persons with differing backgrounds and experiences. Teachers who have had different exposure to an occupational area will most likely be in a better position than one individual to determine which content is more relevant to a particular occupation or occupational area. The group process can also serve as a means of keeping personal bias to a minimum. If the group must agree collectively on curriculum content, one person's bias becomes more difficult to be accepted — unless, of course, all group members share the same bias with this individual.

The foregoing points to a major shortcoming of the introspection process. Whereas moving the curriculum decision-making process from one teacher to a group of teachers may make these decisions more reliable, using introspection does not mean that the content will be any more valid (*i.e.*, relevant and realistic). For example, even though a group of electronics instructors unanimously agrees that curriculum content should consist only of studying vacuum tubes, this still does not make the content precisely relevant to employment in our transistorized society.

Therefore the curriculum developer must recognize that introspection is not always the most valid content determination process. To come up with truly realistic content by this process is often quite difficult, particularly when one considers the nature of individual instructors and the scope of many occupations.

One means of at least partially overcoming this validity problem through use of occupational advisory committees. The advisory committee is, by its very nature, supposed to be in close touch with reality Committee

members should be able to distinguish between relevant and irrelevant content and provide the curriculum developer with the sort of guidance needed. A basic assumption is that committee members are, in fact, close to the occupation, can determine what content is most relevant and, therefore, should be included in the particular curriculum. However if this assumption cannot be met, the curriculum developer is not much better off than he or she would be with a teacher group.

The DACUM approach

A most useful variant of introspection is the DACUM approach, which utilizes some basic ideas associated with introspection but shares few of its shortcomings. The reason for this is that DACUM relies on experts employed in the occupational area to determine curriculum content and allows them to be guided through a systematic content determination process. Although the approach has some commonalities with other content determination strategies, DACUM will be examined in a singular fashion because of the success curriculum developers worldwide have had using this approach in content determination.

DACUM was initially created as a joint effort of the Experimental Projects Branch, Canada Department of Manpower and Immigration and Geneva Learning Corporation. The idea was later adopted and used by Nova Scotia New Start, Inc. and utilized in the determination of vocational curriculum content for disadvantaged adult learners. DACUM was felt to be particularly useful for the New Start activity because immediate action needed to be taken on curriculum development and limited dollar resources were available.

DACUM may be defined as "a single sheet skill profile that serves as both a curriculum plan and an evaluation instrument for occupational training programme". A unique aspect of the DACUM approach is the way that curriculum content is displayed. A single-sheet with profile is used to

present the skills of an entire occupation, thus refusing the chances of treating one element of an occupation separately from the other. The profile provides an independent specification of each of the behaviours or skills associated with competence in the occupation. These behaviours are stated in a rather simple manner so that the student can understand them and are organized in small blocks on the chart in such a manner that each can be used as an independent goal for the student. The profile can also contain a rating scale that facilitates evaluation of achievement for each of the behaviours.

The development of a DACUM profile involves using a committee of ten to twelve resource persons who are experts in a particular occupation. Employers nominate as resource persons, people who are skilled in the occupation and who are currently serving as a worker or supervisor in the area. Experiences with this approach have revealed that instructors in an occupational field *do not always* contribute effectively to the DACUM process. If vocational teachers are involved in the DACUM process, they might be best utilized as *ex officio* committee members and be brought in after the basic committee has prepared a preliminary or draft profile.

The DACUM committee functions as a group with all developmental activities taking place when the members are together. Time required to complete a DACUM profile generally ranges from two to four days. A coordinator from outside the committee works with the group to facilitate the development process. Examples of previously deprived DACUM charts and related materials are provided to committee members so that they may see what the end product will look like.

Following committee orientation, the facilitator guides the group through a series of steps that includes:

1. Reviewing a written description of the specific occupation;
2. Identifying general areas of competence within the occupation;

3. Identifying specific skills or behaviors for each general area of competence;
4. Structuring the skills into a meaningful learning sequence;
5. Establishing levels of competence for each skill as related to realistic work situations.

Once the DACUM profile has been developed, the product may serve as a basis for developing instructional content and materials that focus on student attainment of specified skills. It should be noted that teachers tend to become involved *after* the profile has been produced. This procedure has the advantage of identifying only those skills that are more relevant to the work setting. This does not mean teachers are de-enfranchised; they are recognized for their overall technical expertise and ability to organize, sequence, and detail curriculum content.

The DACUM approach to curriculum development has some distinct advantages. First, the committee procedures results in a relatively low development cost. The major expense would be payments to committed members, and in many cases, a business or industry will gladly release an "expert" from his or her duties to assist in this process. Second, the time frame for conducting the DACUM activity is quite short. Thus, in a relatively brief time, instructors may use the profile to prepare for their classes. No time is spent waiting for forms to return or worrying about nonrespondents. Third, and perhaps most important, is the way the DACUM enables curriculum content to be derived without academic intervention. DACUM's advantage over the traditional introspection process is quite clear. The process allows more relevant content to be identified and incorporated into a curriculum. At first glance, the DACUM approach appears no different from the traditional trade and job analysis process. One should note, however, that these approaches relay to the instructor to determine what the content should be with little direct consideration given to

input from persons employed in the actual work setting.

Task analysis

Few content determination strategies have seen such widespread use as task analysis. This particular approach has been employed by vocational educators in varying forms for a number of years. However, during the mid-1960s, several developments occurred that resulted in major refinements to the task analysis process. These refinements have enabled curriculum developers to make more objective decisions regarding content that should be included in various curricula. Of particular note was research conducted at the Personnel Research Laboratory, Lackland Air Force Base, Texas, which resulted in the development of a procedural guide for conducting occupational surveys. This guide has enabled educators to study systematically the behavioral aspects of job requirements. Further refinement and use of the task analysis process by groups such as the Vocational Technical Education Consortium of States (V-TECS) has shown this approach to be quite applicable to public vocational and technical education.

Task analysis fundamentals

Basically task analysis may be defined as the process wherein tasks performed by workers employed in a particular job are identified and verified. The worker's job consists of duties and tasks he or she actually performs. *Duties* are large segments of work done by an individual that physically serve as broad categories within which tasks may be placed. Example of duties would be organizing and planning, typing, maintaining equipment and tools, and loading and hauling. *Tasks*, on the other hand, are work activity units that form a significant aspect of a duty. Each task has a definite beginning and ending point and usually consists of two or more distinct steps. Examples of tasks performed by workers would be planning menus, filing materials, computing depreciation, and winterizing vehicles. Basic to the task analysis process is the gathering of

information directly from workers. Obtaining information from this source ensures that workers are actually providing input for curriculum content decisions. Just as the name "task analysis" implies, potential tasks are identified and then verified by job incumbents, with the resulted analysis serving to determine which tasks are actually associated with a particular job.

Conducting the task analysis

There are several possible ways that a task analysis may be conducted, from the key to success lies in being both thorough and systematic. For this reason, much of the discussion that follows is drawn from procedures by the Vocational-Technical Education Consortium of States in the conduct of their task analyses. V-TECS is a cooperative among a number of state agencies to develop catalogues of performance objectives, criterion referenced measures, and guides in selected occupational areas. The consortium is administered by the Southern education of Colleges and Schools, Commission on Occupational Education Institutions, Atlanta, Georgia. Catalogues based on task analyses are completed or underway for hundreds of job titles ranging from child care to management. The experience of this consortium over the past several years has enabled V-TECS to develop a set of task analysis procedures that is extremely functional. There are, of course, other sources of information for persons who are planning to conduct task. However, most references are, at least in part, based upon analysis Archer's work. Those interested in marketing education occupations may explore parallel competency identification efforts conducted by the Marketing Education Resource Center, Inc., Columbus.

What, then, are the basic steps involved in this task analysis? Typically they include reviewing relevant literature, developing the occupational inventory, selecting a worker sample, administering the inventory, and analyzing the collected information.

Reviewing relevant literature

The first step in conducting a task analysis consists of examining literature in the occupational area. This review is useful in determining the extent to which other analyses may have already been conducted. If meaningful analyses have been completed, there is usually no reason to go any further with the analysis process. A second use of the literature review is to develop lists of potential tasks and equipment associated with the occupational area. Tasks may be listed for one or several jobs with the exact scope of the analysis being determined by the curriculum developer. Thus, an occupational area typically consists of two or more jobs in a related area or cluster. Equipment lists serve to identify the extent to which equipment is used and, once verified serve as meaningful aids in laboratory planning and similar areas.

Developing the occupational inventory

After task equipment and work aid lists have been gleaned from the literature, duplicate items are deleted and, wherever appropriate, relevant items are added. Lists are then incorporated into an inventory that will eventually be completed by incumbent workers. The equipment list is generally placed on a separate sheet of the inventory, together with spaces for workers to check items used in the current assignments.

In order to keep track of the various jobs examined in a task analysis, standard numbers and job titles provided by the Dictionary of Occupational Titles (D.O.T) may be used. The D.O.T. classification scheme is utilized by the U.S. Department of Labour and might prove especially helpful when an instructor is eager to know what tasks are appropriate to various jobs in an occupational area.

An equally important aspect of inventory development deals with the areas marked by incumbent workers. These consist of scales to check whether or not tasks are done in the present job, and they permit the indication of time spent doing the tasks. Unfortunately, time spent on a task does not

indicate that it is more or less important than other tasks. Some very important tasks take a very short time to complete. Data collected from workers are used to determine whether or not a particular task is of sufficient importance to warrant its inclusion in the curriculum. The inventory contains one task-list page from an inventory for biomedical equipment technicians.

The items are representative of background information that is usually gathered. Workers' names and addresses may be needed in the event that some responses require clarification, whereas "How long have you worked in this occupational area?" may be used to categorize workers' responses in accordance with their work experience. A curriculum developer using this approach is advised to keep informational items to a minimum and only include items that are absolutely essential.

Selecting a worker sample

Although, in some instances, information may be gathered from an entire population of workers, this procedure is usually not followed. Workers in a particular occupational area may number several thousand or even hundred thousand; thus, data must be gathered from an appropriate sample of that population. Sampling not only cuts costs in terms of printing and mailing, it also reduces the magnitude of data to be analyzed. Numerous references are available that describe procedures for determining the appropriate sample size. Regardless of the sampling procedure used, any sample selected must be truly representative of the population. An appropriate sampling technique will ensure that results from the worker sample can be generalized to the population.

Administering the inventory

Once the inventory has been developed and the sample selected, data can be gathered from incumbent workers. Perhaps the most expeditious approach is to mail the inventory out and rely on workers to complete and return it.

Unfortunately, this is not always successful, since inventories usually contain twenty to thirty pages and hundreds of tasks. When care is not taken to follow up on those who fail to return forms, the result may be a low return rate. If fewer than 60 percent of the selected samples completed and returned to inventories, the generalizability of results to a population of workers may be seriously questioned. Therefore a high return rate should be secured whenever the inventory is mailed to workers. An alternative approach is to sample employers and make contact with persons at the managerial level to solicit the cooperation of their employees. By dealing directly with employers, the curriculum developer is able to obtain support "from the top" and thus encourage a good return rate. Workers whose employers support the inventory process may feel a strong personal obligation to complete and return the inventory promptly. A third alternative would be to interview workers at the job location. This is often an expensive proposition, but it may be the only effective way to gather data from workers in certain occupational areas.

Analyzing the collected information

After the data have been collected from workers, responses are typically processed via computer. This is certainly the most expeditious route to take since each inventory contains so many different tasks and items of equipment. If, for example, 200 workers each completed an inventory with 300 tasks and 75 equipment items, 75,000 bits of data would be produced!

In the determination of what actually constitutes a meaningful task the recommendation is made to establish some appropriate cut-off point. For example, this might be "80 percent of the workers perform the task." Whatever standard is eventually established, it must be remembered that the vocational curriculum typically prepares students for entry level employment. Tasks should not be arbitrarily eliminated just because they are not performed by seasoned veterans, since these same tasks may be performed by a high

percentage of novice workers. By taking information from the workers' background information sheets such as time spent on a job, a determination may be made of which tasks are performed by more experienced and less experienced workers.

The critical incident technique

Even though the critical incident technique has been available for many years, its use in deriving curriculum content has been quite limited. This technique is comprised of "procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems".

An incident is any observable human activity that enables "inference and predictions to be made about the person performing the act" and assessment of facilities currently available. While financial resources could be discussed in this chapter, this topic is treated in Chapter 5 since finances are closely linked to community resources.

The goal of this chapter is to provide the curriculum planner with the capability to conduct an internal scan of what is really happening in the school system or technical or community college as it now exists and to identify data for use in either establishing program standards or determining if established standards can be met. One of the first steps in curriculum development is to study the current program.

Assessing the current status of vocational and technical education programme

Before any curriculum-planning decisions can be made, consideration must be given to assessing current programme and developing a basic understanding about them. Whereas some curriculum planners are able to build a vocational and technical education program where none exists, most will be faced with making decisions related to the improvement, redirection, and/or expansion of ongoing programme. Thus, it is imperative that full consideration be given to the current vocational and technical education program.

Current vocational and technical programme, enrollments, and capacity

The assessment of current programme begins with identifying and listing individual courses that are presently being offered. This may seem a trite step to some, but the listing will help to eliminate some future problems and misunderstandings, especially with those involved in curriculum planning who do not have vocational education backgrounds.

The use of a form, enables the curriculum planner to produce a clear, concise picture of current vocational and technical education programme. Titles approved by the state department of education should be used in listing program areas or courses. the use of abbreviated names or nicknames will often lead to confusion and misunderstanding in communications between curriculum planners and noneducational decision makers. If the state department of education has assigned code numbers to approved courses, these could also be used and placed in parentheses after each course offering. The second column is designed to help identify the location in which a course is currently being offered. This would be of special value when vocational courses are offered in different buildings or when students are bused to different locations for their vocational and technical courses.

An example of how the form can be of assistance to vocational teachers and administrators in understanding the current status of a total vocational program. Let's assume the data represent the current status at East Central High School in December of a school year. The following observations of the data could be made.

Marketing Education

- A. Classes are operating at about 80 percent of the capacity.
- B. Courses tend to have a high degree of holding power as students advance.

Home Economics

- C. Low enrollment exists with Food Occupations II.
- D. Over enrollment exists with Introduction to Foods and Cuisine Foods.
- E. Number of seniors enrolled is substantially lower than the number of juniors.
- F. The program may be operating at near capacity with only one teacher.

ICT

- G. Program could serve twice as many students.
- H. Do scheduling problems exist since a high number of seniors are enrolled in ICT I?
- I. One teacher could be reassigned.

Technology Education

- J. Could the large number of 11th and 12th graders in Engineering Drawing be prohibiting 10th graders from taking the course?
- K. Woods Technology, Metals Technology, and Construction are underenrolled to a high degree.
- L. Program could serve more students.
- M. There may be a high attrition of students when comparing enrollment of 10th graders to enrollment of 12th graders.

Overall Vocational Program

- N. Program is operating at 77 per cent capacity.
- O. Can the program do a better job of holding students?

As with these observations for East Central High School, it is evident that the use of the form and type of data would be very valuable to the teacher, administrator, and curriculum specialist in gaining a perspective of the current

status of the vocational program. The data collected by use of the form would become even more valuable as data are collected over time and trends are identified. For example, someone could raise the following questions:

Is the enrollment of 120 students in Marketing Education (80 percent of capacity) good or bad?

Is the number of seniors (27) enrolled in Technology Education high or low?

Is the percentage of the student body at East Central High School who are enrolled in vocational education increasing or decreasing?

The answer to each of these questions is "That depends." if the enrollment in Marketing Education for the previous two years was 140 and 130, then a current enrollment of 120 could imply that problems exist. If the number of seniors enrolled in Technology Education has decreased in the last few years, then someone needs to take a close look at the program and/or the scheduling to pinpoint what may be causing this decrease. If the percentage of the student body at East Central High School enrolling in vocational courses for the last three years has increased from 50 to 52, and now to 56 percent, then one may conclude that the program is gaining in quality, serving more students, and operating at an increased efficiency.

It must be remembered that the data collected for any one point in time will limit the analysis that can be made. Data collected over time where trends can be identified will enhance the abilities of teachers, administrators, and curriculum planners to make the right decisions for strengthening current programme.

Determining student occupational interest

The story is told of how a new vocational program was added to a school's curriculum and the most up-to-date facility was constructed for it, but when it came to enrolling students, no one wanted to take the program. Although this

story may be more fiction than fact, administrators and teachers have no doubt wondered from time to time of students were really interested in the courses being offered. Planners must take into account the occupational interests of students when measuring program standards.

Standardized tests

One approach to assessing the occupational interests of a large group of students is through the use of standardized tests. This is especially helpful if several different grade levels are to be surveyed. Such tests are available to educators and can be an effective tool in curriculum planning. But it must be kept in mind that no test is available that specifically identified into which occupation a person should go. Vocational interest tests are intended to point out general vocational interests of students and should not be interpreted beyond this point.

Interest Inventories. Students will be more highly motivated to investigate occupations and firm up career decisions if they have a good understanding of themselves. Interest inventories not only help students to learn more about themselves but also aid curriculum planners in making generalizations about future program direction.

The following factors should be kept in mind by students and curriculum planners when using standardized interest inventories:

1. Interest inventories do not indicate ability. A student may be interested in an occupation but not have the ability to succeed in it.
2. Interest inventories may help students recognize interest in occupations that they did not know existed.
3. Interest inventories may help students confirm what they thought were their interests.
4. Interest inventories should never be used as the only method of assessing student occupational interests.

Other factors to consider are stated interests, individual observations, and activities in which the student has participated.

Several interest inventories are currently available. Four of the more common tests are the Kuder Occupational Interest Survey Form DD (KOIS), the Ohio Vocational Interest Survey (OVIS), the Differential Aptitude Test (DAT) Career Planning Program, and the Self-Directed Search (SDS).

The KOIS takes about thirty minutes to administer and can be given to tenth graders or above. A unique feature of the third edition of KOIS is that scales are included that focus upon occupational interests as well as college majors. The inventory cannot be scored by hand.

The OVIS is designed for grades eight through twelve and requires sixty to ninety minutes to administer. This survey measures an individual's preferences on the following twenty-five interest scales: manual work, machine work, personal services, caring for people or animals, clinical work, inspecting and testing, crafts and precise operations, customer services, nursing and related technical services, skilled personal service, training, literary, numerical, appraisal, agriculture, applied technology, promotion and communication, management and supervision, artistic, sales representative, music, entertainment and performing arts, teaching, counseling and social work, and medical. This survey must be machine-scored.

The SDS is a recently developed interest test that is a reasonably short, self-administered, self-scored, and self-interpreted inventory. It reflects a person's interests and relates them to appropriate occupational groups. The SDS can be completed in forty to fifty minutes and is suitable for students age fifteen and older.

Standardized aptitude tests

Scholastic aptitude tests are also available and can give a

rough estimate of a student's ability to learn from books or from tasks required in school. Several aptitude tests that may be administered are California Test of Mental Maturity, Otis-Lennon Mental Ability Test, SRA Primary Mental Abilities Test, and the Lorge-Thorndike Intelligence Test. To prevent "branding" or labeling of students, educators should refrain from using specific test scores or IQ scores. The recommended practice is to use test scores in general terms.

Another aptitude test is the General Aptitude Test Battery (GATB), which is administered by the branches of the state employment service. The nine factors included in this test are general reasoning ability, verbal aptitude, numerical aptitude, spatial aptitude, form perception, clerical perception, motor coordination, figure dexterity, and normal dexterity.

Standardized achievement tests

Tests such as the Stanford Achievement Test and the California Achievement Test are also used by many school systems. Achievement test measures what a student has already learned, whereas aptitude tests are used for predicting more future performances.

Selecting standardized tests

With the multitude of tests on the market, the curriculum planner may wish to review current listings in the Education Index. However, he or she must eventually decide which test to administer to students. A review of the different types of standardized tests may lead the planner to eliminate some tests immediately, since the purpose for which a particular test is to be administered may not be appropriate for curriculum planning.

In addition to the purpose for which a test is to be used, several other factors should be considered regardless of the type of test desired. Information regarding the following factors is usually found in the booklet describing each test. *reliability* refers to the ability of the test to give the same

results if administered to the same student at a later time; *validity* refers to the ability of the test to measure what it purports to measure. Several other items should be considered to determine if the test is practical to administer. One factor to consider is the time required to administer the test. The time should be reasonable; it is helpful if the test can be administered within a single class period. Another factor is the cost. Although curriculum planners would not want to select a test solely because it is the least expensive one available, tests that entail a higher cost per student could run into a sizable figure if administered to a large group of students. The last factor to consider deals with the ease of administering, scoring, and interpreting the results. A test would be selected only if it gives understandable and usable results.

Specialized interest scales for Specific vocational and technical program areas

Although some research and development on special interest tests have been initiated, curriculum planners will not, in general, for the foreseeable future, be able to use standardized tests to any great degree for determining occupational interests of students within specific program areas. Further research and development need to be carried out in each of the vocational program areas before interest tests can be used with any degree of accuracy for program planning.

Teacher-made surveys

Many planners have relied on teacher-made surveys for use in specific program areas. Although these surveys are not as sophisticated as standardized tests, teacher-made surveys can prove valuable to curriculum planners. Each survey must be developed with a purpose in mind. If the need arises for determining the occupational interests of students in the area of marketing education, then occupations or situations that lend themselves to occupations found in this area must be identified and incorporated into the survey.

The format and length of such surveys can vary widely, depending on the degree to which a curriculum planner desires to pinpoint occupational interests. The survey should be relatively short and easy for the students to complete. Short answers or questions that students can check or circle will aid in maintaining student interest throughout the survey.

Although teacher surveys are usually developed for specific vocational program areas and are used with students already enrolled in those areas, administration of the survey to other students has some merit. The standardized instruments discussed earlier indicate student interest in occupational groups. Teacher-made surveys, however, assist students in identifying specific interests within a certain area. To administer any interest survey or test to a certain group of students and not to others assumes that the student not provided the opportunity to express their interests do not possess occupational interests in that area. This is often a false assumption and one that curriculum planners cannot afford to make.

Administering tests and surveys

One important factor to determine is when a test should be administered. Typically, standardized tests are administered to all students in a school system to assess their current occupational interests. If a program is being planned that will go into effect two years from the time a survey is administered, instruments should be administered to students in the lower grades who will be able to select vocational and technical courses two years hence.

Obtaining assistance

Curriculum planners who are unfamiliar with the administration and interpretation of test results may want to seek professional assistance. Most colleges and universities with vocational and technical teacher education programme have personnel who can provide assistance to local schools in collecting and interpreting data related to educational

decision making. Specialists in state departments of education also have expertise in this area. Furthermore private consultants are available to high school systems on a fee basis; however, the cost for this type of service may prove to be prohibitive.

Vocationalism and Education

Education has always been intimately connected with the world of work. Early impulses to provide schooling for the masses contain a mixture of motives but all of them take cognizance of the social reality of employment. On the one hand humanitarian instincts promoted compulsory schooling in the early years of the nineteenth century as a means of liberating children from the heartless depredations of what amounted to little more than slave labour. On the other hand, later in the turbulent years of revolutions and the widening franchise a note of 'education for our masters' was to be heard, schooling as a means of 'gentling the masses'.

In the twentieth century the ideological currents of egalitarianism, notably in the writings of R.H. Tawney, introduce a levelling function into the debate about schooling. Here for the first time in the public sector schooling is not just to follow a religious or secular social order but to act as a reforming force. The invention of meritocracy in the mid twentieth century is a dramatic step towards the fulfilment of schooling as a power of social change. In such social change what work people are to do is at the centre. Harold Wilson's concept of the comprehensive school as providing 'grammar school opportunities for all' — clearly meritocratic in itself — was a step towards a concept of a common curriculum for a common culture.

What this latter formula lacks is a clear recognition of

social inequalities pervading the culture, most importantly perhaps in inequalities in access to work and its highly differentiated rewards.

It may well be doubted to what extent we have a common culture, so far are we divided on lines of class, race and region. Our recognition of these factors has been heightened by the increase in wordlessness which has been clearly patterned along class, race, gender and regional lines.

In the 1980s, therefore, we are faced with the problem of redefining the relationship between schooling and work. We are helped in this by the legacy of all the experimentations and theorizing that went on through the 1960s. At that time it became possible to articulate a concept of education which separated it from narrow instrumentalism and saw it as an end in itself. To be sure this was not new to human history for Dewey had long ago expressed the idea that the only true aim of education was more education – but in an American context where there was no doubt that schooling served a democratic social order, albeit one which was rapidly developing on competitive and capitalist lines.

The question then is not whether schools should serve society, but how? The philosophizing of the 1960s developed a purist conception of education as the pursuit of personal autonomy based on reason. This lacked a responsible account of the social and economic relations necessary for that purpose. In that way it mirrored the separation of the education service, and teachers particularly, from social audit. As economic and ideological stringency set in during the 1970s this separation broke down to the point of mistrust and disillusionment. Two political events may be seen as symbolic of these developments: the abolition of the Schools Council, which was one of Sir Keith Joseph's early measures, and the creation in 1974 and subsequent growth of the Manpower Service Commission. These two developments attacked the values held by the education service and called them to account for the part education should play in the social order.

Unfortunately this accountability, though necessary (for what democracy ought to tolerate vast unaccounted-for expenditure?), has been converted to its own ends by a narrow range of interests from the world of business. Aided by a businessman's government, business and industry have been holding education to account. The next step in the evolution of education as a public service is surely to widen the interests to whom education is to be legitimately accountable. Already, for other reasons, parents are coming to the fore and we may well be seeing the creation of counterforces to the assumption of industry.

Among these assumptions have been the following:

1. Education principally concerns the pupils' preparation for a world of work;
2. This preparation should concern itself with the 'skills' industry needs;
3. These skills are mainly technical in nature;
4. Schools have perpetuated an anti-industrial culture;
5. Schools have neglected a substantial minority ('the bottom 40 percent') in favour of an academic group of high fliers.

All of these assumptions, and more, may be called into question by the arrival of new interests on the accountability scene. Parents and governors who get to know the work of the schools intimately will certainly realize that schools can hold out the view that there is more to life than earning a living. What, after all, are we to do with the wealth created by work? As curriculum reform goes on, some of it motivated by criticism such as the above and some of it springing from other sources, the questions will be freshly formulated and we may go some way to asking on what principles an educational curriculum which is also socially responsive may be defined. A suspicion of an answer is that no permanent theory for all this is possible. Instead we should look for a balance of interests in which the recent swings of the pendulum from

teachers to industrialists are held more in check by a continuous process of social negotiation in the developing institutions of schooling and government.

The purpose of this chapter is to suggest a broad set of considerations for those concerned with the development of curriculum. Its central theme is that 'education' and 'preparation for work', however broadly defined either or both may be, are not synonymous terms. It will be argued that if there are attempts to convert education to the interests of business or commerce these must be regarded with a critical eye lest other equally legitimate interests in education are consequently devalued. The critique of education from a vocationalist standpoint in recent years has been unhelpful to the improvement of the school curriculum because it has focused attention on too narrow a form. This paper indicates some broader considerations.

It is in no part of this thesis that any particular moves are in fact being made, nor that there is any actual conspiracy to being the education service under the control of business. Those are exceedingly difficult empirical questions which others are addressing. Equally, however, the thesis is not the purely conceptual or linguistic one that the two terms have different 'meanings'. It is not proposed that the content and structure of an 'educational' curriculum can be derived in some *a priori* fashion from an analysis of the terms involved in discussion about it, for example, by contrasting 'education' and 'training'. Though these terms are indeed used to pick out distinctions among practical activities, reliance is better placed upon ordinary human wishes for young people. It will be important therefore that curriculum planning is conducted in such a way that these wishes are not obfuscated by ideology. Centralist tendencies carry this danger and it will be suggested that curriculum planning should be devolved as far as possible to the grass roots level.

In the end, to uphold such a view of curriculum planning is to espouse a value position which has political as well as curricular implications. The message for innovators and

curriculum developers will be that personal and professional responsibility demands that full account be taken of the historical and moral dimensions of their work. Relevance to 'work' or 'the economy' must be set against and balanced with the perhaps less easily articulated values contained in the preferences of parents and others for their children. The new school governing bodies—since they will contain a majority of people with a direct personal stake in the curriculum of their school—present an opportunity for this form of resistance to distant dogma.

Rather than philosophically defining terms, it is important for this form of argument to inspect the substantive ends that education may from time to time be called to serve. This is so not only because philosophical analysis tends to carry little weight in the practical world but also for two other reasons. Firstly, philosophers do not agree among themselves on the issues; secondly, and connectedly, philosophy is not value-free enquiry which, if only it could be perfected, would provide the answers to social and moral questions. The work of the philosophers of education in the dominant Peters tradition has been subject to enough scrutiny to establish that a specific educational position is contained within their endeavours. The whole form of work that this genre of philosophy of education represents goes towards reinforcing an academically oriented school curriculum.

The initial question before us in this enquiry is what alternatives may be specified as the ends of education. The bid from vocationalists has to be seen as not the only alternative to intellectual elitism; too much of the debate has been polarized between these two alone. The deficiencies of our secondary education have been exceedingly well rehearsed and practically nobody denies that the secondary curriculum needs overhauling. How far academic values are to retain their central place is, however, a matter of some contention.

A first riposte to the vocationalist thrust, one dismayingly seldom seen, would be to accept the criticism that

schooling has failed perhaps the majority of pupils but to say that this is no reason for rejecting the view that school is primarily about the virtues of the considered life. Are formed, well resourced, properly assessed curriculum should be preserved with; it should be detached as far as possible from the ravages of a competitive examination system and the straightening effects of subject-mindedness. This move would preserve the centrality of mind without elevating mere cleverness as an organizational criterion, for example, by rejecting streaming and setting without good reason. General education would be reinstated as the purpose of the compulsory school years. Perhaps the most urgent challenge for such a position is to incorporate practical and expressive activities in a tradition of education which is predominantly concerned with the abstract and theoretical.

This move is perhaps too obvious to have achieved much attention yet it is something of the kind the HMI have been propounding in their various publications since *Curriculum 11-16* and *A View of the Curriculum*. These documents have consistently put forward a counter view to that contained in the parallel Ministerial publications. In *A Framework for the School Curriculum* and in the subsequent more muted publication, *The School Curriculum*, for example, there resides no discernible overall view of curriculum design. They are concoctions of the obvious, reflecting only an uneasy consensus of the ill-informed and responding to the political preoccupations of the hour. As such, they are of course undefended against the next trend or moral panic to come along. It is noteworthy, too, that despite obeisances in the direction of the world of work such proposals are bereft of specific curricular ideas in that direction. This is surely because the conceptual apparatus being deployed is limited by the rather narrow educational experience of politicians themselves. It is predominately the subject-based curriculum which is assumed in such proposals and this curriculum has the greatest difficulty in articulating a coherent response to cross-curricular initiatives. There is no traditional school subject called 'the world of work' and thus no clear views are

forthcoming on what it could represent in the curriculum beyond generalizations of a saloon-bar nature about 'the basics' and the 'will to work'.

As it is, then, the popular rhetoric has it that Britain is an industrial country with an anti-industrial culture; the education service does little to rectify and may even be responsible for this state of affairs. But these assertions are linked to no historical explanation why Britain became pre-eminent industrially and otherwise in the first place, nor to the role of the education system in that ascendancy. If there were some such analysis we might have more confidence in the capacity of education to contribute to prosperity as well as benefit from it. The suspicion must remain that, historically, the origins of industrial success lie well outside the education system, in factors such as maritime access to imperial markets. By the same token it might be thought that the seeds of late twentieth-century economic renewal may well lie equally distantly from the schools, for example, in the movements of international capital. If in the nineteenth century the contribution of the school was to provide a docile labour force in turbulent political times, then perhaps today's role for the schools is, minimally, in being seen to respond to economic crisis and unemployment. In regard to schools, politicians can be seen to be doing something, sometimes with the added frisson of censoriousness.

But these are big ifs and it is not to the present purpose to claim they are true. They are raised only to suggest that the relation between the schools and the economy is both multifaceted and essentially contested. Because it cannot be contended that this relationship is clear in a causal, or in any other, way it makes little sense to claim that the schools are responsible for economic decline or that the economy can be turned round principally by education reform. Nevertheless, the educationists are in receipt of regular accusations that they subvert the aims of industry, from pre-school to university, mainly by failing to emphasize technological subjects, by failing to foster the entrepreneurial spirit and by indulging in

the luxury of individualism at the expense of discipline and team work.

The effect of this undifferentiated mass of complaint is to imply that the alternative to the curriculum as it is—and we have acknowledged its defects—is a curriculum geared to the 'real' world of work. And this despite the poor theoretical background and the paucity of though going suggestions for curriculum reform—apart from spectacular but essentially marginal assaults on the system such as TVEI.

But these are not the only alternatives. Indeed, at a time of high unemployment, and unemployment among the young in particular, it would seem logical to contemplate an education for a wordless future. This, however, is plainly not a political possibility and no political party has dared to mention it. Because it is so inconceivable we have hardly any indication what such an education would look like. It would certainly not be the same sort of a thing as education for leisure, for leisure constitutes a range of activities defined as such by contrast to work in precisely the same way treat holidays make sense only when there is something to go back to afterwards. A workless culture will necessarily redefine what it takes seriously as constituting the essential tasks of life and what it takes less seriously as perhaps being recuperative or playful. Since we cling to paid employment as the source of social identity, financial sustenance and personal dignity, we are unable to contemplate a workless future whether for ourselves as individuals or for us all socially. Thus education cannot be conceptualized in this dimension and is apt to degenerate into education for leisure. Education is indeed a vision of the future and curriculum plans can only be made on the basis of what we are able—and willing—to see of the future.

If education for worklessness is a more logical and education for leisure a more likely response to the modern situation we should not be ignoring other aspects of adult life for which education should be prepared. It is predictable that the vast majority of pupils will become parents. Yet despite

James Callaghan's emphasis on the family at the outset of the great debate a decade ago this aspect of the responsibility of the education service has received scant attention in the ensuing rush to vocationalize. It is tempting to ascribe this neglect to some deep intuition that the family is potentially at least a centre of resistance to social engineering. What close-knit family would be prepared to see its members dispersed nation-and Europe-wide in fulfilment of the supreme imperative of work? But the family itself is in crisis, a crisis certainly in part due to an undermining social, political and economic environment. Education for parenthood ought to equip people to understand their predicament as parents in such terms, enabling them to act in defence of the family as an institution as well as in the interests of their own family as a unit. As it is of course, education for parenthood degenerates to child care without reference to its social context. It is hardly likely that there is need of a conspiracy to suppress the family in this subtle way, by reducing it to hygiene and sentimentality, when we are all in general so limited in our understanding of what the family could represent in the social structure and in our personal lives.

For much the same reason community education also fails to gain a real grip on the mainsprings of curriculum development which remains torn between academic and vocational emphases. Much energy and ingenuity has been expended on community education but these endeavours have consisted mainly in attempts to share school facilities. There is little sense of what communities might become; and insofar as efforts remain at the technical level there is little prospect of educational action pragmatically clarifying possibilities.

As well as exercising the role of parents and as well as inhabiting a local community, all pupils will also be members of a political form of life we call democratic. Citizenship, equally with parenthood and community membership, has been much neglected and misrendered goal of the curriculum development movement in recent years. There are few

attempts to relate a knowledge of the forms of government to the levers of political power. So in schools the old civics and British Constitution survives; there are pictures que role playings in the shape of school councils and moots; but the skills of participation and the exercise of personal and community rights receive scant attention. To go beyond the costly descriptive is for schools to court the charge of mixing education with politics. Here the academic tradition of neutrality is seen as a disease preventing the positive engagement of young people in the political culture. The proposal in the 1986 Education Bill to bar pupils from membership of their own school governing bodies is a symptom of that fear of political activity among young people and in or near schools that has nullified even the most legitimate of programmes such as that proposed Crick and Porter. It seems that in this most crucial of areas the fear of responsible political activity is greater than the fear of the consequences of ignorance. Political breakdown and disorder is surely a more likely eventuality than economic bankruptcy; moreover, it is an area where appropriate teaching could directly affect the quality of judgment the citizen deploys. This is certainly a more likely educational contribution to the collective quality of life than the purveying of dubious employment-related 'generic skills'.

In the closely-related field of economics it is truly significant that calls for education to prepare pupils for 'the world of work' include only nostrums of the 'there are no free dinners' variety and contain no invitation to a critical economic literacy. That there are a number of theoretical ideas about economic growth, all with different policy implications, is to be forever unknown to the majority of people who will make their political choices on the basis of personalities and slogans only. School, which for very many will be their only exposure to a critical consciousness, will have been in dereliction of an educational duty. The conflict between education and vocationalism will have claimed another casualty in the middle ground.

The educational imperatives from the family, from the

community, from citizenship and from economics have all suffered neglect or suppression as a result of the vocationalist assault on the curriculum. These modern concerns threaten to go the way of those older curricular aims—Christian salvation and gentlemanly cultivation—in the struggle between ideologies. For it is important to recognize that no bid on the resources of the education system can be free of social and political assumptions concerning the distribution of power and the nature of the good life. When national economic survival is postulated as an overriding priority it will be important to ask 'survival in what form?' which distinguishable interests will be advantaged and which disadvantaged in any new settlement? Reference to Raymon Williams's threefold classification of educational interests—the industrial trainers, the classical humanists and the public educators—may be complemented by Salter and Tapper's state bureaucrats as a basis for such enquiry. There is an urgent need for research in the real politics of educational policy. Such research, of which Broadfoot's is the best recent example, could help us to discover the centres of educational influence at national and local levels and thereby to learn how deliberation might be opened up to wider constituencies.

Such is the overwhelming strength of the vocationalist impulse that deliberation over the curriculum has been severely curtailed in recent years. It is surely now time to review the direction education is taking, and a start should be made by considering the adequacy of the forums within which educational policies and initiatives are generated.

Since the demise of the Schools Council there has been no independent body wherein curriculum development could be promoted. Despite its well documented shortcomings, its labyrinthine committee structure, its failure to produce a 'whole curriculum' policy, and its apparent lack of 'take-up' in the schools, this was the nearest we have seen to a research and development agency holding the ring between the many diverse interests in education. Its successor bodies, the School Curriculum Development Committee and the School

Examinations council, are not representative of those diverse interests and respond principally from the centre to the political imperatives of the day.

The proposal in the 1986 Education Bill to do away finally with the old Consultative Committees which contributed so much intelligence to policy making over the years is perhaps another symptom of the flight from independent advice which has characterized centre over the past few years.

In this situation the professional vogue for school-based curriculum development is likely to be restricted to the realm of technique against a backdrop of structural decisions on the curriculum taken centrally. If curriculum is to be rescued from the truncations of vocationalism it can only be hoped that the LEAs will exert themselves and set up their own curriculum development agencies. These should be based on a genuine collaboration of local interests using a disciplined form of enquiry and resulting in clear statements of policy for the whole curriculum. Such statements are not to be confused with prescriptions for detailed curriculum content. It is rather a matter of establishing an agreed working rationale against which practitioners, governors and education committees themselves may make judgments on future developments in the light of experience. The power of the LEAs has been greatly diminished since local government organization in 1974 but they could surely redeem their educational souls by taking seriously their responsibility for the curriculum in concert with governors and teachers.

In doing so there would be a strong tide to swim against. The flow of events is increasingly in one direction, from central to local and then to school level. Centralization is of course a separate question from that of the desirability of the messages that are sent. In the professional mind, though, centralization is inevitably bound up with the vocational trends of recent years. Given the central government's legitimate interest in the economy and in manpower planning it is likely that only the coarser-grained messages will come

through that channel. All the more reason, then, for LEAs, governors and teachers to mount their own curriculum initiatives, preferably in concert at the local level where they can be enacted, monitored and improved.

The urgency of this is not simply in defending more sophisticated and locally responsive curricula. More, it is a matter of preserving and furthering the art of curriculum making at the scene of its transmission. If teachers are not to become a mere 'delivery system' of curricular goods defined at the centre, local exertions are necessary. The new machinery for INSET will need to be used not solely for short-term system maintenance or so as to be seen to be applying central priorities, but also to research more distant goals and more adventurous possibilities. The contractual relationships implied in new forms of teacher appraisal will need to be moderated by a spirit of collegiality. Above all, the deleterious effects of rush must be minimized. Of course there is urgency; but the strongest impression left by the last ten years of curriculum initiatives is one of too many answers chasing too few questions. This form of educational inflation has depleted energies throughout the system and eroded reserve of educational commitment which badly needed renewal. The kind of local activity suggested here, albeit having to work against a prevailing climate, would be a means of introducing a desperately needed and greatly desired quantity of deliberation into a curriculum development process marked of late by destructive haste.

Curriculum making restored to the local level as a participatory and collaborative activity would discipline the rampant and ideological vocationalism proposed by elites for the children of others. It would achieve this by setting employment prospects in their proper context, namely as important considerations among the full range of desires we all have for our children. We wish them to become good parents, full members of the community, thinking citizens and critical participants in an evolving democracy. We wish them to be happy. Set in this context all sorts of employments,

themselves stand a chance of being revalued for their contribution to a well-lived life.

Appendix

A commitment to vocational education and training

The system of vocational education and training in the Federal Republic (West Germany) is one which has attracted a great deal of attention from British observers, and, as a consequence, has been frequently examined by visitors—including politicians, industrialists, civil servants and educationalists—and just as frequently reported on. The reason for our consuming interest in the Federal Republic's provision of vocational education and training is not far to seek: the 'economic miracle' which had led to West Germany raising itself from the rubble of the immediate post-war period to become the most prosperous and economically powerful country in Western Europe must surely, it is said, have something to do with its system of vocational education and training? As the United Kingdom's industrial position and prosperity relative to other developed countries have declined, so that of West Germany have increased. By 1980, for example, as Professor Prais has pointed out, output per employee in manufacturing was some 50 per cent higher in West Germany than the United Kingdom and real income per head of the total population was about a third higher. At the same time West Germany boasts a much comprehensive and seemingly effective system of vocational education and training, so that it is natural to assume that the former state of affairs derives, in part at least, from the latter.

The Federal Republic of Germany is, of course, a creation of the decade after the Second World War. It grew out of a fusion of the three zones occupied by the American, British and French armies of occupation and became a sovereign independent country on 5 May 1955. With the exception of West Berlin, which is an outlier embedded in East Germany, its territory is contiguous and is made up of 11 *Länder*, or

states: Baden-Wuttemberg, Bavaria, Berlin, Bremen, Hamburg, Hessen, Lower Saxony, North Rhine-Westphalia, Rhineland-Palatinate, Saarland, and Schleswig-Holstein. It occupies an area of almost 250,000 square kilometres and has a population of just over sixty-one million, of whom 49 per cent are Protestants and 44.5 per cent Roman Catholics. Over four million foreigners are living in the Federal Republic at present, of whom almost half come from Turkey and most of the rest from southern Europe. The size of the population within each *Land* varies considerably, from about 700,000 in Bremen to some seventeen million, or more than a quarter of the country's total population, in North-Rhine Westphalia. Its economy is predominantly an industrial one, based on coal-mining, iron and steel, machine construction, electrical and metal products, and the processing of food stuffs.

The social and educational background

The Federal Republic today is a stable democracy with a federal constitution which lays down the division of power and responsibility between the Federal Government in Bonn and the administrations within the eleven *Länder*. Thus, the federal constitution bestows upon the latter 'cultural sovereignty' which, as far as education is concerned, gives them primary responsibility for the provision of primary and secondary schooling, with the partial exception of vocational education. Indeed, it was not until the late 1960s that a Federal Ministry of Education and Science was established. This system of government represents little change from the past as West Germany has never had a centralised and uniform educational system. However, it is important to understand that each *Land* has a highly centralised power structure which applies to education equally with other aspects of provincial government.

In general, West Germany is both an ordered and orderly society in which most aspects of economic life and educational provision are determined by detailed laws. It has developed a tradition of 'consensus politics' which is based, among other things, on middle-of-the-road Federal Governments, and an

elaborate body of constitutional law enforced by a powerful judiciary on both the executive and the legislative. In this context there is general agreement about the importance of vocational education and training, which has long been regarded as an integral part of West German life, and about the parts to be played in its provision by the Federal and *Lander* governments, by employers, by trade unions, and by the individuals themselves. Education is highly regarded and is seen by many as the principal means of bettering themselves.

The school system, which is relatively simple, has to British eyes, a somewhat old-fashioned appearance as, at lower secondary level, selective schools are predominant and comprehensive schools the exception rather than the rule. Although there are slight differences in organisation and structure between the individual *Lander*, the basic school system is broadly similar across the country, being divided into three stages: primary, lower secondary, and upper secondary. There are nine years of compulsory full-time schooling from 6 to 15 in most *Lander*, with ten years in a few. In addition as we shall see, all West German pupils have some form of compulsory education or training up to the age of 18. Moreover, the compulsory period of schooling is preceded for more than three-quarters of the pre-school population by attendance at *Kindergarten*, whose numbers have grown very considerably in the past twenty years. The primary school, or *Grundschule*, comprises Grades 1 to 4, ages 6 to 10 years, everywhere except in West Berlin and Bremen where it covers Grades 1 to 6, that is from 6 to 12 years. Like primary schools elsewhere, those in West Germany have not been without their problems. These include the procedures for selection for the different types of secondary school which in the past have often been very rigid, bringing pressures upon children and teachers similar to those associated with the formerly widespread 'eleven-plus' examination in the United Kingdom. However, in recent years the transition to secondary schools has become more flexible with the introduction in the first two years of lower secondary school of what are

variously described as 'probationary', 'observation', or 'orientation' stages (*Orientierungsstufe*). Their function is to leave open the decision about what the pupil will do next until the end of the sixth grade and then reach this decision on a reliable form of assessment. In many parts of the country, primary schools have had to accommodate substantial numbers of children of foreign workers, *Gastarbeiter*, and many of them have been less than successful in providing multicultural and bilingual programmes for these children.

Once youngsters have completed their four years of primary school, they move on to three types of selective secondary schools: the *Hauptschule*, or roughly equivalent to the British secondary modern school; the *Realschule*, or intermediate school, and the *Gymnasium*, or grammar school. The *Hauptschule*, which caters for about 45 per cent of the 10-15 or 16-year-old age group, is a five-or-six year school which takes those children who are unable to obtain places in the other types of schools. It has been in decline for some years and inevitably finds itself, especially in the urban areas, with the most backward and most deprived West German children, including a high proportion of the children of the *Gastarbeiter*. Numerous attempts have been made by the *Länder* to revise the *Hauptschule*, for example, by means of curriculum reform and by the introduction of a school-leaving qualification which is recognised as equivalent to the *Realschule* diploma, but these have not been very successful.

On the other hand, the *Realschule*, which now caters for over 20 per cent of the age group, has expanded its position over the past twenty years as an alternative selective institution to the *Gymnasium*. It offers a four-year programme, from age 12 to 16, and its increased popularity is due partly to the fact that its curricular, emphasising science, mathematics and modern languages, is increasingly popular with pupils and parents who see it as a good preparation for later employment or higher education; and partly because the educational opportunities for those completing the *Realschule* have greatly increased. It has proved particularly attractive to

children of working-class parents who are deterred by the more elite aura of the *Gymnasium* and who prefer the more practical curriculum available in the *Realschule*.

The *Gymnasium*, which caters for about one-quarter of the age-group, is a nine-year school, from age 10 to 19. It has changed dramatically in the past twenty years or so, both in the social composition of its students and in the curriculum which it offers. Its main function has been, and remains, to prepare students for entry into higher education, principally via the *Arbitur*, the graduation certificate which entitles the school-leaver to study at the university. Moreover, the changing nature of the *Gymnasium* in recent years means that it is no longer as highly selective as it once was; indeed in some suburban areas it enrolls as much as 50 per cent of the age cohort. In North Rhine-Westphalia, for example, its most populous state, the school population fell from 3.4 million in 1975 to 2.7 million in 1985.

Finally, in a few of the *Länder* there are comprehensive schools, *Gesamtschulen*, which cater only for about 3 per cent of the schools population, compared to over 900 per cent in the United Kingdom. Their geographical distribution is very uneven and they are mostly concentrated in the politically less conservative states, namely those with Social Democratic governments, such as West Berlin, Bremen, Hamburg, Hesse and North Rhine-Westphalia. The reasons their supporters put forward for their introduction are similar to those in the United Kingdom: that they are a means of providing equality of educational opportunity for all youngsters, that they enable more young people to develop their full potential, and that they promote co-operation and citizenship among all strata of the society. However, their introduction has aroused considerable controversy and has been held up by legal and other impediments. Moreover, even in areas where there are comprehensive schools, a *Land* must provide the other three types of secondary school in order to ensure that parents have a full choice; this frequently results in the 'creaming off' of the most able students into the *Gymnasium*.

In addition to the four types of public secondary schools described above, there is also a variety of Special Schools which cater, for instance, for physically or mentally handicapped children. These schools accommodate about 5 per cent of the age group. In addition, there is a relatively small private sector of education.

Before examining the provision of vocational education and training which becomes available for youngsters after age 15 or 16, it is important to consider how far their school-leaving attainments provide a sound basis for this subsequent training. In this regard the acquisition of mathematical ability is clearly significant, and it seems indisputable that West German standards are higher than those in the United Kingdom, and that youngsters leaving all the four types of secondary schools have a greater mathematical capability than their equivalent in the United Kingdom. Moreover, about 90 per cent of all school-leavers obtain a school-leaving certificate appropriate to each type of school, requiring minimum attainments in core subjects such as mathematics, science, German and a foreign language. As a consequence, it can reasonably be concluded that the 'schooling stage' in West Germany provides a better foundation for later vocational training than its British counterpart. It also offers a broader curriculum and significantly higher levels of attainment in core subjects, for a greater proportion of pupils.

West German schools also provide more pre-vocational instruction than do their British counterparts, in the form of programmes known as *Arbeitslehre*, or Education for Work, which have been introduced into schools in all parts of the Federal Republic. However, they have been confined to the *Hauptschule* and *Gesamtschule*, and in practice are largely restricted to children of working-class parents. They are essentially pre-vocational in character in that, although they include a period of work experience, they are not designed to provide job-specific training. Their official aims are ambitious and include the provision of a general vocational education to enable youngsters to find an adequate profession, the

promotion of vocational and professional flexibility, and making young people aware both of the nature of employment and also of their role in the home and in society at large. *Arbeitslehre* replaces former subjects such as woodwork, metal-work and needlework; however, the precise form which it takes varies from one Land to another. Unlike many school subjects, it is not tied to one related area of learning, but may be taught through several, such as engineering, economics, social sciences and home economics. In this respect, it bears some resemblance to the Technical and Vocational Education Initiative (TVEI) programmes which have been introduced into British schools in recent years. However, the latter are designed for youngsters aged between 14 to 18 of all abilities, while *Arbeitslehre* is provided for the 13 to 16 age range, very largely for the lower half of the ability range.

Arbeitslehre has been particularly well developed in West Berlin where compulsory education continues to the age of 16, and it comprises a general course in such subjects as basic work techniques, typewriting, the reading of technical drawings, consumer information, bank accounts and family budgets; a choice of option from among mechanical technology, electronics, textiles, and household subjects; and career guidance, including talks by local personnel officers and visits to local places of employment. Elsewhere, where compulsory schooling ends at 15, *Arbeitslehre* may be obligatory only for the last three years and somewhat less time may be devoted to it than is the practice in West Berlin.

Inevitably, the introduction and evolution of *Arbeitslehre* have not been without their problems, including the difficulty of organising the programmes over a range of school subject and ensuring that teachers have the attitudes and knowledge to teach them effectively; and the administrative complications of organising work placements in factories and businesses. While properly organised programmes of *Arbeitslehre*, tailored to the needs of individual students, have much to offer them—for example, in improving their motivation in mathematics and other school subject areas—they

do require a high degree of co-operation between those concerned and hinge upon the difficult task of properly integrating the various components of the programmes. Moreover, to work effectively they require special methods of instruction including projects, and the production of goods for sale and even services in the form of repairs and information, which in turn require specific teaching techniques from the teachers concerned and the provision of specialised class rooms. Clearly, therefore, the implementation of effective programmes. *Arbeitslehre* will require more money than traditional school subjects. As they are patronised very largely by lower ability children in the *Hauptschule*, it remains to be seen how much public support they will command.

The provision of vocational education and training

In the Federal Republic, the vocational education and training of youngsters to produce skilled workers takes place once they have completed their general education at school. Thus, for the majority who leave school at 15 or 16, two types of vocational training are available. The first is the celebrated *Dual System* which most youngsters of this age embark upon, whereby as apprentices they combine on-the-job-training in industry or business with part-time, compulsory attendance at vocational schools until the age of 18, and the second consists of attendance at full-time vocational schools, which have been growing in popularity in recent years.

The much admired *Dual System* is the classic way by which the majority of West German school-leavers enter into a vocational training programme. It is characterised by two major features which distinguish it from most vocational training systems in other countries, such as the United Kingdom. First, as we have seen, training is split between two instructing parties: the employer and the school. For one or two days a week they attend state vocational schools, where they combine general education with the theoretical underpinning of their vocational subject, and for the rest of their working week they acquire practical skills at their place of work. Second, as is apparent from the foregoing

description, vocational training takes place to a considerably greater extent in the workplace than in school.

This system of apprenticeship, not unlike that in the United Kingdom which combines workplace experience with day-release to the further education college, though of course in a much smaller and less systematic scale than in West Germany, has very deep historical roots going back to the guilds and the master-apprentice relationships of the Middle Ages. It depends for its success on the willing co-operation of four major parties: the Federal Government, the *Lander* governments, the employers, and the trade unions.

At present, about two-thirds of all young people in the 15 to 18 age group participate in the *Dual System*, which overall caters for about 1,80,000 trainees. During the course of 1986, for example, over 700,000 new trainees were accepted as apprentices, 40 per cent of them girls, in no fewer than 500,000 training firms, approved for this purpose by the Federal Government. These youngsters were training for some 430 different trades in 13 broad categories, although they were largely concentrated in relatively few of them. Moreover, sexual segregation occurs so that the boys especially patronised 'male trades' such as motor mechanics, electricians, machine fitters, joiners, masons, painters, gas and water fitters, salesmen, bakers and locksmiths. These 10 trades accounted for no fewer than 39 per cent of all apprentices. In the case of girls, the concentration in a few trades is even greater, with 58 per cent of all female trainees following one of seven trades: hairdressers, saleswomen, office work, business women, doctor's or dentist's assistants, bank clerks, and retail shop assistants.

The specific training programmes which apprentices undergo are usually of between three and three-and-a-half years' duration, though a large number of occupations require only two years of training, and in some individual occupations training can be completed after one year. In addition, young people with above average school-leaving qualifications, and judged to be of superior learning ability, can have their

training period shortened. Subject to the successful passing of examinations, training programmes culminate in qualifications as skilled or white-collar workers. The training which takes place in the employers' premises, which as we have seen comprises the greater part, is governed by a series of federal laws and regulations. Among the most important are the Vocational Training Act of 1969 which specified the basic legal conditions for the provision of on-the-job training, and the Vocational Training Promotion Act of 1981 which governs the planning of vocational training and the work of the Federal Institute of Vocational Training, which is a part of Federal Ministry of Education and Science, and which, in collaboration with representatives of industry, business and trade unions, determines what skills and knowledge are required for each occupation. Thus, the BIBB's role is a key one in the *Dual System* is that, among other things, it provides a kind of 'clearing house' in which the various partners in the system—including the *Lander*, the employers and the trade unions—can hammer out agreements on vocational training matters. A very important part in the system is also played by private sector autonomous bodies known as Chambers of Industry and Commerce, Crafts, Agriculture, and certain professions, consisting of representatives of employers, employees and vocational school teachers. The chambers are 'responsible agencies' for vocational training and are autonomous, regional organisations to which all firms must belong. The most important chambers are the sixty-nine of industry and commerce and the forty-two of craft. They are responsible, at the end of the apprenticeship, for testing centrally both the vocational elements of the curriculum which are learned largely on the firm's premises, and also those general theoretical aspects learned in the vocational school which are of specific application to the apprenticeship concerned.

The curriculum which apprentices undertake consists of an initial period of broadly-based training lasting about a year, followed by specialist training appropriate to their place of work. Regulations governing curricula for specific trades

are agreed upon by the major parties concerned and these are revised and brought up-to-date from time to time. They always include written and practical tests and, often, oral tests as well. A form of quality control derives from the fact that most chambers obtain standard examination papers from semi-commercial bodies set up for this purpose. The awards given by individual chambers are recognised nationally and are valid throughout the country.

The bulk of the costs of training within the *Dual System* are borne by the firms with whom trainees sign a contract which guarantees their employee's status. These costs include those of providing instructors, training workshop, machines and materials, and the remuneration of the trainees. In 1985, for example, industry and business spent approximately 20 billion DM on this training. In recent years the amount of money spent by firms on vocational training has risen considerably. This is due partly to the increase in the number of trainees, partly to the need to provide more and better trained instructors and for trainees to spend longer periods in workshops, and partly because an increasing number of small firms are having to send their apprentices to interplant training centres. Both the Federal and the *Lander* governments have also been spending more money in an effort to persuade industry to provide more training places, especially for young people who are disadvantaged in some way, and to improve the quality of vocational training itself. In 1984, for example, they spent more than one-and-a-quarter billion DM on special programmes for pupils at vocational schools, while the Federal Institute of Labour spent over 3.7 billion DM on promoting vocational training on an individual and institutional basis.

Emergence of the New Vocationalism

In this chapter, we outline the diverse and numerous factors that lie behind the emergence of new - and the reinforcement of some old - forms of vocationalism: what is meant by a vocational orientation in the education of young people and why it has emerged. We do not, at this stage, differentiate between the settings - school, office, workshop, specialist college or whatever - since these factors are at work in all of them, and there are aspects of the responses which are common to all. Differences of course there are; they are considered in later chapters where a more detailed appraisal is made of the main theme of this chapter.

Setting the Scene

For reasons that are primarily economic, the years since the early 1970s have witnessed a major resurgence of interest in the vocational role of education and training in the personal and social processes of formation which are governed by such purposes as preparation for working life and occupational choice, and the matching of human capabilities to labour market needs and opportunities. This interest is part of the close attention being given to the conditions necessary to sustain growth in the modern economy. In the face of massive challenges to reorient and restructure, to achieve greater efficiency, to find new economic opportunities, and, more recently, to alleviate or forestall youth unemployment,

countries have increasingly turned to education and training as an investment in the future. This has given a strong functional or instrumental tone to a great deal of the contemporary debate about education, whose purposes and procedures have always included vocational preparation, albeit often indirectly, usually in conjunction with other values both personal and social, and seldom in sufficient degree. Changes reflecting the redefinition of the vocational factor, ways of making it a more explicit aim of education and the transformation of the nature and conditions of work are all evident; these are occurring within enterprises, both private and public, in schools and colleges and in public policy. Notable, too, are the so-called new growth theories which single out research and development, education and training as crucial factors in economic growth and thereby provide a stimulus to researchers and policy-makers to identify key points for intervention, including a working life orientation in schooling.

Education in general has been coloured by the increased attention that has been given to its economic and its wider social utility. Of particular interest, however, is a distinctive movement of ideas, policies and practices which has emerged during the last quarter of the twentieth century. Known variously as the new vocationalism, preparation for working life, transition from school to work or simply as vocational or technical education and training, this movement has, in Britain and many other countries, been the source of significant and frequently controversial innovations in educational structures, content, methods and funding. A major challenge to much that is established in the education system, it has generated a growing volume of analysis and research, public policy initiatives, action in both the public and private spheres of education, training and employment and sharp divisions among advocates and critics.

The initial focus of the new vocationalism in the 1970s and 1980s was on adolescents aged 14-18 at the point of transition from compulsory schooling to working life.

Increasingly, as a response to demographic change and to shorter-term employment needs, the focus is widening to include continuing education and training for mature adults including re-entrants to the workforce. The initial stage, however, remains of great importance not least because it directly connects the all too frequently separate domains of schooling and general education with specialised vocational preparation and experience of working life. It is to this initial or transitional stage that the principal arguments of this book are addressed.

The different traditions—of general, school-based education with its roots in a culture of broad-based knowledge and understanding and of technical, vocational training with its origins in specific, employment related tasks and its preparation for work through work—are converging. The diversity of interests involved, competing purposes and programmes and the pace of change in the working world, are sources of energy but also of uncertainty and confusion.

The very terminology, of 'educational', 'vocational', 'training', 'skill', 'competence', 'working life' and so on, has become fluid: definitions need to be operational and provisional, relative to and clarified in the context of particular programmes and inquiries. While consistency is not easy to sustain, we shall, in this spirit, treat 'education' as a comprehensive term for purposive, structured human and social formation, governed by intellectual and ethical principles, directed at knowledge, understanding and their applications and informed by a spirit of critical inquiry. 'Vocational' refers to those educational functions and processes which purport to prepare and equip individuals and groups for working life whether or not in the form of paid employment. 'Training' is task specific but nevertheless, in our usage, a part of education and subject to the values, criteria and principles which govern education processes generally, even though, as frequently used, its reference is to factual knowledge and unreflective skills. Obviously, those who control education, vocational preparation and training will in

both policy and practice colour the interpretation given to these functions and processes. One of the most striking modern developments, affecting the vocational sphere as much as other aspects of education, is the emergence of new forms of control: the growth of parent power, of the influence of industry and commerce and of various partnerships and collaborative procedures for decision-making. Less common until recently in school systems, the partnership principles have been long established in technical and vocational education.

As we look back on some two decades of rapid growth and change in vocational education, we can identify both the major landmarks and the tasks that must be addressed if this transformation of ideas and structures is to take effect in soundly conceived practice. Much has been achieved, as a result of immense effort during a period of change unparalleled for the scale and intensity of commitment to reform of vocational education and training. After this extended period of innovation and experimentation it is also necessary, now, that we undertake something of an educational audit. To what extent has this vocationally oriented drive contributed to our broader educational practice and values? What have we learnt about the problems in vocational education and training and how best to overcome them? Why is there a continuing sense of uneasiness about the direction of reform, a questioning of assumptions, values and of what has been achieved? These questions have acquired a fresh significance in the light of immense changes now under way in the general secondary and higher education sectors - changes which should be informed by the experiences of reform in vocational education and training as much as they will, in turn, impact upon it.

The rationale for the national vocational drive in Britain since the 1970s is multifaceted, but its main purposes have been clear and stark; to create and consolidate a comprehensive system of vocationally oriented education and training for all young people; and to bring education and

training at the mid-adolescent stage into line with perceived requirements of the work environment. In turn these purposes reflect concern about the state of the economy, its competitiveness, adaptability and potential for growth, concern about the capacity, unaided, of schools, colleges and undergoes substantial changes, and an overriding concern about the inadequacy of an education system which, for all the changes, remains unduly stratified and exclusive.

Education and training are, it has been proposed, to be perceived instrumentally and from a particular standpoint. Notwithstanding the efforts made, the resulting achievements, and the clear and valuable corrective provided by this national vocational drive, there is still risk of a cramped vision and an inadequate understanding of the place of the vocational dimension in a wider philosophy and system of universal, lifelong education. It is in the nature of a reform which, its full potential yet to be realised, runs the risk of over-determination by its narrower rather than its broader purposes and values. In Britain, at least, this is the contention of the critics who have been quick to seize upon the values underlying major government initiatives even more than the change strategies that have been adopted.

Major central governmental initiatives both within and outside the formal schooling and further education sectors have been the key factors in the new vocational drive. Industry and commerce have in varying degrees co-operated and there have been a number of joint ventures, but there is no doubt about the prime mover. A considerable diversity of patterns is evident in Britain as among the other industrialised countries and the British experience both contributes to and can be better understood – and perhaps better directed – when seen in this international context. Key elements in the newer British approaches are also more clearly seen and appreciated when set against a background of national history. The new vocationalism is unintelligible unless it is situated or contextualised in this way.

Vocationalism and the restructuring of employment

Vocationalisation of education includes, but goes beyond, training for a job or paid employment. On the one hand, it is a dimension of education for life, for living, of which work in some form is an all but universal attribute: 'vocationalism' is a process or activity, the imparting and the acquisition of broadly defined skills and knowledge believed to have a discernible relationship with the capabilities needed for productive work and required or expected of workers, now and in the future. This aligns 'vocationalism' with a philosophy of purposive activity designed to accomplish results and render service. On the other hand, vocationalism is a function, whereby the education system services the workings of the economy, deriving its purpose and rationale from some assessment of economic need and requirement, such as trained manpower for the labour market. Both dimensions draw attention to the fundamental importance of vocational education in any society. In doing so they remind us that a critical problem for Western societies has been the persistence of dualism—a disunity rather than a unity of relationships: mind and body; head and hand; leisure and work; theoretical culture and utility; superior and inferior occupations.

From its foundation, systematic, popular or public education has always had a vocational content and function, even if it has not been recognised as such. The new vocationalism is a critical movement—radical in the sense that new foundations are being put in place and new structures erected on them. The issue is not whether education should be vocational, but what vocationalism means in contemporary terms, what could count as adequacy or quality of vocationalism, and how well the vocational orientation is balanced with other purposes and values of education.

Even though some industrialised countries seem reasonably satisfied with their provision of vocational education and its orientation, the new vocationalism as an educational force has not been an isolated trend, limited to

economies in trouble or those moving into what is now frequently, if rather loosely, described as the post-industrial era. Societies throughout the world are aware of a lack of synchrony between, on the one hand, human, societal and economic needs and, on the other, the processes of production and distribution of wealth. A classic example is the unresolved environmentalist debate between conservation and exploitation of natural resources. Another is the apparent inability of many governments, in both the industrialised and developing countries, to solve the chronic problems of large-scale youth and adult unemployment. Every central government and educational planner is, to at least some degree, concerned with the matching of manpower, or, rather educated and trained people, to the drive for economic growth. This is a drive which entails structural adjustment—that is, a restructuring not only of jobs but also of industrial and social relations and organisation.

Such restructuring necessitates an overview of the whole territory of vocational education and is perforce resulting in several different kinds of fusion. The number of fields of vocational and professional life has been reduced through job restructuring; professional associations and unions have amalgamated; the number of training 'lines' has been reduced through regrouping. As work itself becomes more highly organised globally and not only locally and nationally, more dependent on research and on advanced knowledge and refined sensibilities in workers more interactive in terms of both structures and relations, so do the domains of 'work' and 'education for work' become interactive. The corollary to the 'vocationalising of education' is the 'educating of work'—its transformation into an educative culture. We are still at an early stage in this revolution, practice falling far short of what is technically and organisationally possible, let alone of advanced ideas.

Significant long-term, rather than short-term cyclical, changes in the nature and structure of jobs in industrialised countries have occurred over the last two decades. These long-

term structural changes, as exemplified in the case of Britain, are acting to decrease the number of unskilled jobs available for young school-leavers, especially males, reduce full-time jobs generally, make greater use of sub-contracting, increase part-time temporary jobs, demand multi-skilling of the existing labour force, and provide jobs requiring higher-level skills—that is, a more educated workforce. These structural changes in recent years have worked in the same direction as the cyclical downturn of the economy, exacerbating unemployment, especially among youth. Such long-term changes indicate that even the smaller youth cohorts of the next few years, allied with any significant upturn in general economic activity, will not fundamentally ameliorate employment prospects for the young unskilled.

The widespread development of global markets, especially, has changed the terms of competition in many product markets, notably those of large-scale manufacturing industry. Companies with strong national bases from which they export to other national product markets are being transformed into transnational companies with the world as their market and no particular national allegiance or single base. As a consequence, production can be transferred between or cascaded across countries, weakening the link between the level of product demand in a national economy and established levels of demand for labour. This trend has led to the loss of many unskilled and semi-skilled jobs in manufacturing in Britain as in other industrialised countries. Technology and economic globalisation pose a profound challenge to established national practices in allocating and organising work.

In parts of the service sector in Britain, particularly in the distribution, hotel and catering areas, increasing industrial concentration has occurred, with the consequent larger national and international companies adopting different systems of labour management and utilisation from those of the older family firms displaced in the process. A drop in full-time and increase in temporary part-time jobs has been quite

marked in this sector in Britain. Employers have sought recruits with good interpersonal skills, as quality of client contact has become of key competitive concern.

In commerce the introduction of information technology, and in manufacturing information technology and advances in machine design to produce computer numerically controlled (CNC) machines, robots and flexible manufacturing systems, have worked to enable a smaller number of more highly skilled individuals to achieve a given output. From its retrospective review of member country labour markets in the 1980s, the Organisation for Economic Co-operation and Development (OECD) drew one basic conclusion: 'that more training and retraining will be required'. The issue is, however, not only a quantitative one, important as that is for an under-educated country like Britain, but one of form, content, relevance and quality.

Vocationalism: A worldwide trend

A broadly defined vocationalisation has been a common thread which runs across the education and, increasingly, the employment policies of every country, whatever its level of development, political system or geographical location. In the post-war era, it has been advanced under many shapes and forms depending on the ideology and economic system of each country, through such concepts as unity and diversity in the curriculum, career guidance and education, polytechnic and polyvalent education, work experience, multiskilling and pre-vocational and further education and training. Since the early 1970s there has been a powerful impetus as well in most, if not all, OECD countries towards vocationalisation of the curricula of basic and post-compulsory schooling and towards a multiplication of vocational training measures designed to bridge perceived gaps between educational provision and social and economic needs.

Such developments are not confined to the major industrialised economies. Many less industrialised countries have long been concerned with enlarging and updating the

vocational dimension of the education systems they inherited from their colonial past. Strenuous efforts continue to be made to orient primary and secondary education towards meeting the perceived needs of adult working life and to adapt them to local and national development requirements, both economic and social, nowadays usually under the rubric of 'human capital formation' or 'human resource development policies'. At higher levels, the aim has been functional education within the framework of established development plans, again with the goal of raising the competence of the citizens to the highest possible levels. Surveys and consultation meetings carried out under the auspices of the Commonwealth Secretariat, and under the Commonwealth of Learning, which has been established to foster and strengthen international collaboration in distance education among the 40-plus members of the Commonwealth of Nations, confirm the very strong interest in reshaping the education of the 14-16-plus age group to bring it into mainstream with national development needs. UNESCO, too, has sought to give a fresh impetus to its long-standing involvement in technical and vocational education by launching a project for the creation of an International Centre for Technical and Vocational Education. The language of 'enterprise culture' and the competence required for effective workers in such a culture has, too, emerged in the Asia-Pacific region of UNESCO.

In the era of planned economies of the former COMECON countries, a commitment to the principle that labour is the fundamental source of human value was part of the declared ideology. The human capital theory in some form or other has indeed long and widespread support across political and ideology. The human capital theory in some form or other has indeed long had widespread support across political and ideological boundaries: Adam Smith and Karl Marx had much in common. The theme of education and training for productive work has for long played a significant part in the Central European countries as it has in other parts of the world. How far this will remain in focus following the recent and continuing political changes in these countries

remains to be seen. Given the necessity and the widely declared aim of restructuring their economies, it is to be expected that the development of education and training in these countries will retain a very strong vocational flavour, albeit on somewhat different ideological promises.

The new vocationalism in several of the Western industrialised countries belonging to the OECD may be said to be rapidly following a direction which some other countries, from a variety of value positions, began to pursue many years earlier. Put in simpler terms, this may be expressed as a recognition of the fundamental importance in educational provision during the compulsory years of schooling of an explicit element of 'preparation for working life' and of the necessity for all youth, beyond the compulsory years, to have the opportunity of systematic training and of continuing general education.

It is important to realise that we are not witnessing an isolated phenomenon, one that has the fragility of a particular, transitory set of politico-economic circumstances. Dissatisfaction by certain employers and employer groups with the performance of the education system in some of its basic functional tasks may seem to be the immediate cause of this change, but to treat the trend as a mere reaction to what are often conflicting and somewhat superficial criticisms is to misconceive the fundamental transformations that are taking place.

The distinctively late twentieth-century global combination of economic growth, technological change, structural transformation of the workplace, democratisation and the universal quest for material betterment are among the factors of over-riding importance. How these factors are perceived – whether as deterministic of or interactive with educational values and processes – and the extent to which their importance is assessed by the different actors, both nationally and internationally, provide the dynamic for action, or, just as frequently, inaction or confusion. Thus whether or not employers perceive a skill shortage or

inadequacy may be as much a function of work organisation and of other structural features such as financial management and industrial relations as of the outcomes of schooling. Moreover, there are wide differences in the employment sector with respect to technological applications and hence in the perceived need for 'technological literacy' and other skills. There is also the question of whether policy for vocational education is best directed-as much of it has been in Britain - at the lower skills echelon, the early school-leavers, or at the middle and higher skill levels. A greatly improved dialogue between the actors and more refinement of the categories of analysis used in research, interpretative literature and policy-making are necessary conditions for achieving more coherent and effective policies.

During the immediate post-war period, continuous economic expansion and full employment came to be considered normal in OECD countries, allowing for the cyclical fluctuations of the business cycle. In recent years they have remained stated objectives of national policy if muted by the determination to maintain a balance at the macro-level between potentially contradictory and destabilising trends. There is a growing recognition that countries do not merely trade their way out of difficulties or 'fix' their economies at the level of macro-policy; they must increasingly assure themselves of highly trained, flexible workforces. Moreover, these trained workforces need outlets for their talents, competence and energies: they need jobs. This is indeed a key element in the move towards the complementary micro-economic policies of structural adjustment. 'Structural adjustment' means, in effect, the reform of the socio-economic structures which inhibit or reduce the capacity of countries to pursue longer-term development goals and to relate to one another in mutually beneficial ways in the international environment of trade and exchange. Education and training are central to any programme of structural adjustment for the very obvious, if sometimes neglected, reason that it is upon the educated and trained capacity of the actors-the people-that the ability to restructure and to gain from its benefits depends.

We have, belatedly, entered the era where, as Bruce Raup and his co-workers long ago put it, 'the improvement of practical intelligence' is coming to be recognised as a primary policy goal. In this respect, we have indeed entered a new era. Whether conventional, full time, paid employment for all or practically all youth and young adults will continue to be delivered by the advanced economies is a moot point. It does not, however, vitiate the claims being made for even higher levels of education and training, with preparation for work as one of the primary policy objectives.

This new 'education era' is characterised not only by a recognition of the need for what the OECD Ministers of Education referred to as a high quality of education and training for all. Comparability and transparency of credentialled knowledge and skills across national boundaries assume greater importance than even before in the new Europe; globally the spread and transferability of technology, of industrial and commercial organisations and the moves to establish agreed 'rules of the game' in international markets and trade are among the factors that are leading to a reappraisal of the vocational content and structures of education. Moves towards mutual recognition of qualifications throughout Europe are bringing additional pressure for both breadth and a restructuring of vocational qualifications in Britain. The age of self-contained national systems of vocational education and the attendant qualifications and certifications processes-however adequate they may have been in their own terms - has passed. While these propositions may receive assent in principle, their practical consequences are, however, far from clear.

Rising expectations of basic schooling

The forces for change-scientific, technological, economic, social, cultural-call for a renewal of policies for education and training, yet there is far too little understanding of the actual dynamics of these forces and agreements over just what changes in education are most needed. Nevertheless, in pursuit of long established goals relating to universal literacy,

social participation and equality, Western countries, Japan and many developing countries have invested massively in education, throughout the whole of the post-Second-World-War era. This expenditure has assumed that economic benefits and other social goods would accrue in the short and the long term, although not necessarily directly.

From the inception of public education systems, the economic argument has been clearly reflected in investment in vocational education and training, however impoverished provision may have been in practice. Other predominant notions, dating back to the Enlightenment, have been that education is crucial in the formation of culture and the maintenance of social order and that it can contribute significantly to equality, social justice and material advancement. Nowhere is this doctrine more tellingly advanced than in the writings and actions of the eighteenth-century polymath, Benj min Franklin. For Franklin, as for many who have followed him, the quest is for betterment of the human condition, and have followed him, the quest is for betterment of the human condition, and this includes the economic condition. But, in the particular rendition of the concept that Frankling gave, betterment has of necessity a component of universal, practical education whose utility was no less social than individual, no less material in its effect than intellectual and moral. Franklin's own life experiences and his benevolent utilitarianism naturally led him to incorporate preparation for gainful and socially useful employment in his educational schemes.

The new vocational thrust in Britain may seem a far cry from the reform schemes of Franklin and other philosophical minds of the Enlightenment. Of all the major, system-wide trends in contemporary education, it is potentially, if not actually, the most revealing in its contemporaneity and its messages for the future development of policies and programmes for the education system as a whole. Yet it is part of a living tradition in education which extends back, beyond the doctrines of the eighteenth century, to antiquity. The

debate about vocationalism is a debate about the nature of education and the directions of the culture. Thus it is of far wider significance to all parts of the education system and for the future of British society than may seem the case at first glance. This is evident if we consider what has often been regarded an unduly narrow educational concern: job preparation.

One of the most serious problems in many countries is matching people to jobs, and jobs to people: positive labour market policies which address not only aggregate skill levels but identify targets for employment growth and ways of achieving those targets which include but cannot be confined to comprehensive education and training policies. Measures are needed to stimulate both demand and supply. The ability in industrially advanced countries to place young people in jobs, in the years up to the first oil crisis in 1973, meant that, on the quantitative side, there was no glaring mismatch between educational provision and social and economic needs. Inefficiencies in enterprises including poor selection and training policies and deficiencies in the quantity and quality of education were widely, if unwisely, tolerated. From the point of view of the individual and the State, failure at school was not necessarily the end of the line, because a person could always get an unskilled job and hope, may be, to progress from there. This is not to say that there was great public or professional satisfaction with education systems, but the job placement function of schooling, always a latent consideration, has become increasingly problematic.

In some parts of the community and in many countries. Even in times of high youth employment, there was a justifiable concern that schools and colleges did not offer the type and quality of education which was relevant to the concerns of everyday life and working people. This may be a quantitative problem-insufficient numbers of candidates qualified for particular jobs, as has been the case in Germany-or a qualitative one-inadequately trained or prepared people for whatever jobs are available. In the United States, for

example, as early as the late 1940s, advocates of 'life adjustment' education were critical of schooling for its failure to prepare young people for jobs and social participation. While this dissatisfaction and related concerns about schooling have not been ubiquitous, they have become powerful enough to generate major changes-of which the modern vocational movement is itself an example. The critique has extended with labour or employment ministries adding their assessments of schooling to those made by the educators and the employers.

How have schools and educational policy responded to these critiques and to the challenge to reform? Among the OECD countries, educational reform has become a constant theme, not, to be sure, just as the consequence of economic concerns. In secondary education, for example, reforms have included extending the period of compulsory attendance, school structure and organisation (for example, comprehensive schools, non-selective entry, mixed ability grouping), curriculum restructuring and renewal, improvements in teacher education and the monitoring and assessment of performance. Issues of social justice, equity, efficiency and a refined sensitivity towards children's needs have featured in these reforms. But so, too, has a quite definite understanding of the changing needs of the world of work.

In some countries, new structures of secondary education have been erected, with proposed vocational streams and qualifications that have equal status with the established academic stream. France provides a striking example, at least of the intention of equality. In other countries, previously separate vocational schools or streams have been integrated into mainstream schooling in the junior high school years, if not beyond. This move has, however, had the unintended consequence of disadvantaging students in the new practical and vocational stream at schools because of a tendency to assimilate that stream to the general, academic model of the traditional secondary school rather than to rethink the whole basis of secondary education.

In the face of these concerns, universal secondary education, charged with educating the entire population, has been challenged to excise traditions based on progressively weeding out those identified as unsuitable, rather than nurturing them; it has been expected to make itself attractive to all of its clients and to excite their interest. The consequence has been demand for a more effective curriculum, for learning more closely in tune with patterns of growth and the world in which the children live. Dissatisfaction with the perceived results of the attempts made to respond to this requirement was the first stage in the development of the current drive for relevance, of which the new vocationalism is a part. It was thus the move, first, towards a mass and then a universal system of secondary education which radically changed preconceptions about what this level of education was for! Thus was provided a dynamic for change internal to the education system whose effects are now strongly felt. This historic move, therefore, may be regarded as satisfying several of the conditions necessary for the emergence of the new vocationalism. It cannot be said, however, that secondary education in Britain, or indeed in other industrialised countries, has reformed itself to the extent needed.

Thus, not only exogenous factors in the wider society and economy but also factors internal to the school system at the secondary level have played a significant, if generally overlooked, part in the emergence of the new vocationalism. For a fuller account, however, we must consider the *interaction* of factors external and internal to the school. Several of these have already been noted, but to be reminded of the heterogeneous nature of these factors, in a country whose reform policies and strategies have had a worldwide impact, it is instructive to look back to events following 1957 when the Soviet Union launched the first Sputnik and triggered a wave of alarm in the United States, where the comprehensive secondary school had been the norm for decades.

'Life adjustment' education had been tried, as a way of making the comprehensive secondary school more relevant to

its universal membership but had not produced the quality of performance expected. Many Americans felt threatened technologically, economically, militarily and even ideologically by the then Soviet Union - much as increasingly throughout the 1980s they felt a Japanese threat. In both instances, education was seen as having much of the responsibility and, as a result, became the object of substantial, external pressure for change.

It had seemed axiomatic that the best system would produce the best technology and Americans tended to assume that educational reform was a key to both. the role and quality of mathematics and science teaching in particular were targeted for attention. While international studies of school performance did not conclusively demonstrate that the American systems of education and training were inferior to those of the then Soviet Union, they did, in addition to showing the extreme difficulty of comparing the objectives and performance of different education systems, give rise to considerable anxiety. It became evident, also, that while large-scale public education is financially onerous, it is extremely difficult to tell how cost-effective it may be. Whatever may be the conclusion on this point, criticism of the performance of American schooling has continued; reform has been set as a major goal of national policy and a vast industry of comparative educational analysis is developing. The American reform agenda extends to reversing the decline of the always marginal territory of vocational education.

Other factors in some Western countries, Britain included, led to the effectiveness of educational provision being questioned. That mass education systems were unable to eradicate inequality significantly in a short space of time was of particular concern in countries with large disadvantaged minorities and/or strong social democratic governments. There was and is consternation about rising levels of violence among young people. Should-or could-the mass education systems have prevented this from happening? With the expansion of secondary education to cover all age

groups in most industrialised countries, numbers of youngsters appeared to derive very little advantage from it. When the world economy slipped into recession in the early 1970s, the incapacity of cash-hungry education system to pay off in economic terms appeared to be completely confirmed, at least to the satisfaction of crusading interest groups and political parties. Economic recovery in the 1980s and the sustained growth cycle of that decade brought about not so much a restoration of confidence in education as a growing sense of the need for qualitative improvement and greater relevance to socio-economic demands. Anxieties previously in the background now came to the fore in the public mind. What was significant, however, was a vastly increased weight of public feeling and emphasis on accountability and tangible, measurable outcomes.

Effective preparation for the labour market can to rank high among such outcomes but, ironically, this occurred during a period when the youth labour market in many of the industrialised countries entered what is now widely believed to be terminal decline. It was not the mainly American concern about technological slippage but unemployment consequent on recession in the early 1970s, and now chronic in many countries, that intensified the demand for relevance and through this led to the demand for more and better vocational training, among other developments. The dream of full employment was shattered and this had much greater meaning to the average voter than the relative strength of the techno-economic systems of West and East. Though the shortage of jobs relative to demand was only indirectly, if at all, attributable to education system, failure at school now meant losing the chance of participating in the labour market, a real factor in everyday life. Monetary inflation was accompanied by qualification inflation. The value of the currency slipped, not uniformly to be sure since business cycle and market fluctuations have at some times benefited engineers or builders, at other times the tourist and finance sectors; but even the university degree steadily lost its commanding position.

In many sectors, employers pick and choose and, with increasing frequency, a basic standard of 'relevant' education is a necessary, if not a sufficient, condition for any kind of employment. At the same time, a constant refrain from employers is the need for a high level of skills.

Even though, in many occupations, there is no close link between the content of qualifications and the tasks to be performed in the workplace, the screening function of the qualifications process remain active.

Socio-economic systems have come to be perceived as having failed youngsters, as much as the other way around. Such failure was one symptom of a growing malaise compounded of crime, violence, poverty, family break-up and urban decay. What could education do? The mismatch between youth expectation, wants and demands fuelled, if not generated, by material plenty in high growth economies and the readiness and ability of youth to be gainfully employed was reduced to a 'skills gap'. Close the gap, and by a feat of astonishing simplification, many of the social ills would evaporate. From another perspective, it was necessary to make substantial changes to the education systems so that they became attractive to young people. Not least for political reasons, youth needed to be kept off the labour market but in a constructive way, through a form of tutelage which would be redesigned to prepare them realistically for new adult working roles and a generalised social responsibility. Educational institutions, therefore, have felt obliged to rethink their mission, strategies, organisation and curricula.

A skilled workforce for the future

Future economic prosperity and social 'health' and stability have thus come to be seen, as never before, depend on a putative labour force that in its entirety is educated, skilled, motivated and aware. Upon the foundations of a strengthened basic education, a superstructure of vocationally oriented, work-preparatory education and training needed to be erected. The debates on technological change, on international

competitiveness and social order, have moved from the fear of job losses to the new kinds of employment opportunities that are being or need to be opened up to the educated and trained, not the unskilled. The structure of everyday life, being transformed mainly as a consequence of the impact of new technologies in information, communication, production and distribution, is being seen as a kind of lodestone. the emergence of new industries. notably in the service and high knowledge-base sectors, together with the growing acceptance that conventional, full-time, paid employment of youth will not form part of the future employment pattern of industrial countries, indicate that education and training need a new direction. Training for a specific occupation or even clusters of occupations is being supplanted by strategies for 'generalisable skills' or general transferable education, a theme on which there has been a great volume of discourse.

Changing levels of expertise and work organisation in industry, commerce and the public services call for a dynamic and competent population. Yet, in most of the industrialised countries there is a necessity-not always acknowledged—to face up to the harsh realities of competing from a base which is underdeveloped in relation to the new technologies and to the capacity of some trading partners. Disenchantment with economic theories of full employment and optimum growth has accompanied a questioning of the modern mechanism to maintain satisfactory levels of wealth and distributive welfare. Education and training, among other areas, naturally have come under scrutiny. Both old-fashioned and futuristic ideas have been readily examined for seams of sense. The results have not always borne witness to either common sense or a depth of understanding. Interpretations of the classical thinkers have at times been extremely one-sided: Adam Smith's economics, for example has been grossly decontextualised with a resulting '[im] balance between the sacred and the secular'.

In the most general sense and in an age when the sacred is co-opted, compartmentalised and packaged, a highly

secularised education has come to be regarded somehow as able to help overcome unemployment and pull the economy out of recession. In other words, education has to show what it is 'good' for in purely instrumental terms. But it is reasonable to ask whether the 'remedies' satisfy even the instrumental and secular requirements, let alone the need of human beings and societies have for the moral, intellectual and spiritual riches of the 'sacred'. In seeking greater relevance and utility, more precision and applicability, educators must confront the charge of reducing the complex processes of human growth and development to instruments in the service of limited and ephemeral ends, or of powerful socio-economic interest groups.

This risk is perhaps most apparent in educational responses to technological change. These often appear as adaptations to inexorable forces rather than intelligent and creative use of a resource. Technological advances are a consequence of the 'push' from the progress of science and the 'pull' from growth-based economies. The consequence are manifold if very uneven as between countries, regions and different sectors of the population. The 'pull' becomes ever more salient as 'policy' concerns dominate the funding of scientific research and economic globalisation proceeds. 'Technological innovation has been a key weapon of international competition'. Among the most significant of these implications for a system of universal education has been that fewer people are required in the manufacturing process and of those fewer people, the need for the unskilled — a traditional resource for manufacturers — is evaporating as micro-electronics-based technologies become ever more pervasive. Robots are replacing the unskilled on automobile assembly lines, while the skilled minds and hands of specialist print workers are being bypassed as wholly new technologies are brought on stream. Innumerable school-leavers find themselves unemployed, not only because of fewer jobs, but also because they are not adequately prepared for the work that is being done on the shop floors and in those service and knowledge-based industries where some

expansion is taking place. The quasi-permanent surplus of labour which rapidly emerged in most countries during the world recession of the early 1970s has been thus aggravated by technical progress including the globalisation of business. This has given yet more force to the vocationalist thrust, fuelling a perception in some quarters that education systems are failed or inadequate instruments which do not meet their clients' essential needs. The felt need for highly trained people has grown concurrently.

In the recent years, the effect of demographic change, to which we have already lauded, has brought a new element into the situation. Smaller age cohorts in most industrialised countries are now moving through the secondary schools; and the late 1980s witnessed an important shift from concerns about youth unemployment as such, a 'manageable cost', to greater competition by employers for the skilled worker, hence greater interest in the skills that are required and in the skills-jobs matching process. Demography is a dynamic major factor in the new alignment of education, training and employment not only with respect to the fluctuating proportion of school age students but with reference also to an ageing population.

Uncertainty about national economies and institutions in the region of the Pacific basin has been, since the 1960s, a growing source of concern in Western societies. Japan constitutes a serious challenge to all the other industrialised countries: its economic growth scarcely checked by recession in the 1970s, having ridden, seemingly with ease, the new technological tide, and in the 1980s amassed enormous trade surpluses which in the 1990s are, while still growing, placed in investment projects around the world. The rapid economic progress of the group of newly industrialising countries of Singapore, Malaysia, Korea, Taiwan, Hong Kong and Thailand, is further evidence of the vitality of this major world region. Many countries, not least Britain, are fearful of sliding into a state of relative, long-term under development, from which it would be difficult to climb back. There is no doubt

that, even as the Japanese economy seems to falter, this sentiment of losing the race-much more powerful, but similar to that felt in the United States after Sputnik was launched, in the late 1950s-will continue to spur nations to seek reform of their education and training systems, to set goals for them and to pursue these energetically. Although the challenge of the new ponds and economies of Eastern and Central Europe is still in the form of a massive dependency relationship with the Western economies, in time they, too, will become a significant part of the internationally competitive environment. With strong - if historically distorted - education and training systems, these countries will, in the future, be part of the international process of standard-setting, the outcome of which no country will be able to ignore.

A reconstructed system of work-oriented education and training, broadly defined, forward-looking, relevant to perceived social and economic needs and grounded in international as well as national socio-cultural realities, means greater emphasis on things operational or perceived as such: the technical, the scientific, the productive, the instrumental, the relevant and the practical. Education of this kind is expected to 'produce the goods', to be accountable, many of its outcome measurable and its particularities concerned in the experiential domain of the everyday world. Concrete and effective, with specific stress on employable skills and the work ethos, such a form of education might seem to have an easy passage to the heartland of national policy-making and finance. This has indeed been the case in Britain since the 1970s. It is reasonable, however, to ask just what it means to be 'relevant' and 'practical' in an age of increasing scientific, technological and more generally intellectual sophistication. Moreover, it is an age of ever closer ties between nations where the context of 'application' and 'relevance' is the product of a vast interplay of dynamic forces. High levels of cognitive development, of social knowledge and competence and the ability to function effectively in complex, changing life environments will better serve the demands of 'relevance' and 'practicality' than tradition notions of technical skill.

Practical relevance in schooling

The new vocationalism in the developed world has some of its deepest roots in this ideal of practical relevance: applicable knowledge and skills. 'Applicable', however, is ambiguous and it is frequently unclear as to whether this is intended to mean 'here and now' or general applicability in a fluid situation whose future is scarcely predictable. 'Practical' has innumerable connotations and is always relative to ends and purposes and to the state of material development. Since educational ends and purposes relate to the performance of specific tasks to such criteria as the testability of knowledge, critical reflection and the growth of understanding, the 'practical' and the 'relevant' are neither self-evident nor uncontestable.

In a generic sense, however, to be practical is to be capable of performing the task at hand - whether that task is designing a microchip, planning a scheme of urban transport or carving a scroll to replace a decayed capital in a medieval cathedral. Whether such capabilities are 'relevant' is a question whose answer takes us beyond an analysis of the immediately presented end to a consideration of the significance and value of the enterprise being undertaken. From an educational standpoint, 'practical relevance' refers *both* to quite specific capabilities and to principles of procedure, concepts, ideas and skills that are generalisable, capable of application in varied and changing circumstances and able to be built upon, developed and extended through acquired knowledge, experience and further systematic studies.

Standard academic education usually claims the latter, more general qualities. Historically, it has, in considerable measure and for particular groups of students, lived up to the claim. As an instrument of universal education, let alone specific training in the first sense of 'practical relevance', it is, nevertheless, from this perspective seen to be founded on disciplines and methods which are adapted neither to the needs of large numbers of individual children, nor to the

general requirements of society and the economy. This is not surprising; the academic is part of foundation of universal education and makes no claim to address all of the elements of a comprehensive system of education and training. Traditional academic schooling, structured according to theoretical disciplines of knowledge and regulated by a narrow regimen of tests and examinations, is, however, overly geared to developing only that slice of the pupil population which happens to respond in the right way at the appropriate time. Mass primary and secondary education are frequently accused of not stretching children enough. On the one hand, academic elitism and its social-cultural correlates are too exclusive; on the other, attempts to produce a truly universal system of basic schooling have been only partially successful. Schooling is on the march: it is not yet clear about its new destination.

These changes reflect a variety of pressures for curricula and approaches to teaching and learning which, at one and the same time, prepare effectively for adult and working life and are reasonably demanding forms of well-structured general education for every individual child. Most British teachers and educators, harking back to the 1944 Education Act, would probably argue that these objectives have long been intended to be an integral part of provision. We can agree that they are, but the debate is-and for a long time has been-about the extent to which they have been, and how best they can be, achieved. What kind of person is it who is well prepared for active adult and working life, how are the necessary qualities to be developed and who is to be in control of the process? The language of the debate may be new, but these are perennial questions. It would be a mistake to suppose that educators have avoided them. It is, more than anything else, the rapid change in the wider socio-economic and cultural environment that accounts for the tensions and the difficulties in finding new solutions. Addressing these tensions and the attendant difficulties, educators and other analysts have identified competences—such as a broad range of ‘entrepreneurial’ qualities which set new targets for curricula, pedagogy,

assessment and certification. We discuss these in greater details subsequent chapters.

Much of the emphasis on practical relevance is directed towards improving basic competence. 'Competence', like 'practical relevance', is a term that lends itself to an excessive preoccupation with the immediacies of the work environment. The competence we have in mind is of a more strategic nature: an ability to meet the immediate requirements of the working world, coupled with flexibility, openness, creativity and the capacity to identify and solve problems, to manage change and to continue learning.

Can we infer that society in its demands for a more practical and relevant education is well informed or that the media accurately reflect considered public perceptions? We are doubtful and point to a divergence of opinion about just what kinds of competence are of most value. Movements in most countries aim to identify the skills that are deemed to be essential to master and to ensure that these are learned at school. But 'skill', in splendid isolation - or compounded with 'multi', 'flexible formation', 'transferable', 'generic', 'high level', etc - is yet another of those ambiguous, question begging terms which abound in the policy statements, programme plans, innovative projects, conferences and the literature of vocational and, increasingly, the whole of education. It has the seductive quality of appearing logical - an outcome of precise analysis of, for example, the relationship between preparation and manufacture and the roles of designer and operator in precision engineering. 'Skill' is, therefore, 'practical', 'relevant', a means of linking schooling/training tasks with real work, with life, of focusing action on the attainable and the measurable. But, apart from the dysfunctions that occur in the manufacturing process, new technologies must be integrated, work organisation changes are needed, industrial relations issues affect task definition. 'Skill' needs to be contextualised and analysed with relation to other qualities both active and dispositional, such as 'knowing', 'valuing', 'intending', 'willing'. Attempts to enumerate skills, to describe

and articulate and to teach and acquire them independently of content, context and relations represent a chimera, the pursuit of which is costly and frustrating.

More mature and informed assessments of the needs of youth and society are needed to replace the shrill and often naive advocacy of 'skills' in vocational education and 'the basics' in the earlier years of schooling. They call for a reformulation of the curriculum of primary and secondary schools around a well-constructed 'core' of fundamental and essential learnings with the aim of making schools attractive and stimulating to the intelligence and aptitudes of its primary clients, the children. We shall argue, also, that the continuance of a framework of broadly defined core learnings into the years of late adolescence is more appropriate than the quest for either specific or generic vocational skills.

Young people are not, of course, oblivious to these debates and discussions. Closer attention needs to be paid to their views and aspirations. Educators accustomed to expression, find it difficult to listen, to inform themselves. Youth tends to feel that education is not preparing them for their future, whether in the narrower or the broader sense just defined. An influential OECD publication reported as follows:

Young people are especially critical of the relationship between school and work. They believe that the schools are divorced from 'life' and 'life's occupations', and that they are mostly concerned with the next level of education. Secondary school-leavers, therefore, get short shrift.

Being divorced from 'life', of course, is not the same as 'failing to prepare for work'. Preparation for work is indeed a function of schooling, but it is not the only one and nor is it reducible to narrow, task-specific training whether work- or school-based. While many studies indicate an alienation of youth from the prevailing mores and values of society, it is not sensible to pigeon-hole youth as a disaffected generation which will, ultimately, 'settle down'. There is a gap between the perceptions and values of youth and those of society at

large which should be a source of concern. Employers' views vary more from enterprise to enterprise than from country to country. In areas where they have few links with the education system, many tend to complain that young people are inadequately prepared either to step into jobs or into induction programmes. A majority of employers across the world seek to take on personnel with ever high educational qualifications. In its forward-looking 1989 report, the Confederation of British Industry's taskforce on vocational education and training, for example, set 'world class targets' for Britain's skills revolution:

The practice of employing 16-18 year old without training leading to nationally recognised qualifications must stop. These national attainment targets... would make qualifications at craftsman, technician and their equivalent levels in service industries the norm.

The tendency to prefer the more schooled concords, of course, with observations that the educational qualifications of those holding jobs seem to be influenced more by the supply of qualifications than by the needs of jobs. Taking the uncertain link between jobs and qualifications along with the informal preferences for the universally increasing supply of the more schooled yields an expectation that the formal minimum qualifications for jobs will inexorably rise, independently of changes in the nature of jobs. As so it has been found in virtually every country examined, industrialised or developing.

These assertions are, nevertheless, debatable. That they are being made at all indicates that there are indeed problems of both content and form in newer vocational educational initiatives which have their repercussions in the multiplication of credentials. The very fact that universal basic education in the developed world is now taken for granted has raised expectations about the 'raw material' of the labour market and set new requirements for the next stage: upper secondary, apprenticeship, on-the-job training, and so on. It is, of course, entirely reasonable that the huge expenditure on compulsory

education and the many hours spent in the classroom should be justified by satisfactory levels of skill, ability and understanding among the vast majority of young people. It is also obvious that public authorities must develop policies, deploy resources and otherwise foster action to strengthen and improve the quality of education at this next stage. However, there are still far too many employers who resist the idea that they, too, have a responsibility for the training and education of their workforce, thereby reinforcing the all too prevalent belief that education and training are a cost but not an investment.

The demand for a relevant school curriculum, with an established central body or core of learning, cannot of course be illegitimate. Nor can there be objections, in principle, to the building of a superstructure of qualifications and credentials. What is contentious is what is to be deemed relevant, what that core should be, how and where it should be taught, how it should be encoded for purposes of assessment and validation, who should decide and who should pay, and what pathways into further and higher education, work and adulthood should follow. These questions have set a large part of the agenda of change in education in recent years. High up among the answers is a set of these about vocational education and training both within and beyond the school.

Vocational Initiatives for Schools and Colleges

Although the Youth Training Scheme (YTS) has been the spearhead of much of the employment-led rethinking of pre-vocational and vocational education, it was part of a larger and wider reappraisal. The more far-sighted, and not only among the vocational educators, had for decades recognised the inadequacies of provision and its increasing disjunction with the changing needs of young people and society at large. It was not only the Manpower Services Commission (MSC) which identified the need and took action. Ideas and proposals for the reform of curricula and examinations for upper secondary and further education (FE) have been abundant. Likewise in the latter part of the compulsory period of schooling the vocational thrust has been a powerful force for change at the level of the schools themselves.

Starting with the activities of the Further Education Unit (FEU), which has been the leader of the further education as distinct from the industry employment wing of the reform movement, we consider next a series of initiatives and proposals for strengthening the vocational role of the school and further education systems. These and other developments demonstrate the scale and diversity of activity proceeding under the banner of new vocationalism. Whether, taken together, they constitute the coherent and adequately comprehensive reform that is needed is, however, questionable. The outstanding, unresolved issue is the future

of a system of secondary education, the pinnacle of which is the unreconstructed A level examination. The FESU brought considerable influence to bear on the new vocationalism, as the MSC freely acknowledged. Its ideas were, however, based on rather different presuppositions from those of the MSC. The FEU, established in 1977 by the secretary of State for Education and Science, was charged with the task of making possible a more co-ordinated and cohesive approach to curriculum development in further education. It soon began to publish documents designed to stimulate discussion and policy and to participate in a number of demonstration projects. Clearly identified with the established further education sector (schooling model), although lacking power or resources to commission pilot projects or national schemes on the scale needed, its impact on policy, strategic thinking and practice has been considerable.

In June 1979 the FEU published its influential and often reprinted report, *A Basis for Choice*. This seminal work surveyed the range of full-time pre-employment courses available for 16-plus pupils who were entering further education after leaving school but without specific vocational or academic commitments. The FEU concluded that the existing provision lacked both co-ordination and a nationally recognised framework, an observation which, while it caused to great surprise, was widely endorsed as highlighting a major weakness in the national system. In order to promote the rationalisation and effectiveness of the numerous existing and proposed courses, the report recommended a unifying curriculum structure in the new form of a set of criteria which present and future schemes might satisfy. The objectives were defined as flexibility, transferability and currency, themes that were to recur throughout the 1980s. The real importance of *A Basis for Choice* is that, in quite simple terms, it provided policy-makers and practitioners alike with a clear sense of the directions that should be pursued to overcome the widely agreed deficiencies.

Many of the ideas it advanced were taken up in the

design of the YTS. Its weakness, or rather that of the system of which it was a part, lay in the inadequate policy and power structure for effective decision-making in post-16 education in Britain.

The schemes envisaged by the FEU were, like the YTS, intended for a wide range of ability but the FEU had in mind a distinct, school/college-based target group. It recommended provision for young people who enter further education after leaving school and who do something other than CCE studies or programmes preparing them for specific occupations. These mainly one-year courses are intended for young people of average ability and attainment who may be vocationally uncommitted at the start but who wish to develop an informed orientation while keeping their employment and further education options open.

The FEU astutely pointed straight towards one of the principal weaknesses in national policy and provision. This target group might be thought of as a parallel to the YTS trainees, but with this major difference: that they could continue a form of general education, within the environment of the formal education institution. These were among the students the authors of the Newsom Report, *Half Our Future*, had in mind when, in the 1960s, the effects of longer periods of full-time schooling for all were being debated nationally. They were to be the target the numerous proposals and initiatives to reform the middle and upper years of secondary schooling and curriculum and assessment procedures for use by schools and college.

One purpose of the proposed new course was to offer provision positively designed for the needs of the target group. The authors of *A Basis of Choice* drew attention to the number of post-16 one-year O level courses which, in spite of an apparently high failure rate, continued to attract pupils without a definite job or job destination, presumably because of the perceived usefulness or 'currency' of the General Certificate of Education (GEC). While the then prospective substitution of the General Certificate of Secondary Education

(GESE) for the GCE promised to reduce wastage in the form of outright failure, it was seen as likely to render one-year repeat courses an even less fulfilling activity. As Pauline Green put it in 'A new curriculum, the concept of a new course could be

seen as an exciting opportunity to provide educationally worthwhile experiences of students informs expressly designed to meet their needs, rather than:

- their repeating earlier 'failure' (re-take CSEs);
- attempting academically unsuitable courses which had never been designed for 'them' (O level) or;
- being 'dumped' into low-level, unrespected courses which delimited future opportunities.

The FEU report does not, in any global way, examine an age group, or deal with national provision. It puts under a microscope the existing arrangements for a defined clientele - that is, non-specific vocational preparation for 16-plus students with limited but varying academic success and inclination. This is a clientele that has always fallen into the interstices between the categories and differentiated schemes that have formed the staple of national policy and provision. A merit of the FEU thinking is the recognition of a specific target group whose needs command attention by virtue of past failures of policy and yet can be clearly addressed. By way of caution, however, it should be recalled that the aim of the post-Second-World-War reformers in implementing the 1944 Act was to provide, through separate secondary modern and technical schools, an alternative of equal value to the grammar schools. Eventually, this system of separate and supposedly equal strands was abandoned in favour of comprehensive schools. We have already said, but it bears repeating in this context, that one of the crucial, unresolved issues in the 16-plus debate is the quality and acceptability of the several alternatives now offered to those not proceeding through the GESE to A levels. Due in very large part to the legacy of separate elements and the status monopoly enjoyed by an A level system which is quite explicitly tailored to meet the

needs of a small minority, Britain as yet lacks a coherent framework of education for those aged 16 and over. Especially in relation to the A level issue, policy, while clear enough, is inadequate in relation to requirements for the majority.

To return to the endeavours of the FEU, we can, with them, acknowledge the undesirability of simply adding to a plethora of existing courses. The FEU objective has been to substitute something more useful (functional) in the eyes of students, parents and employers. In view of this objective it was necessary to provide a balance between something general (because uncommitted to a vocation) and something regarded as useful in a future job; and between something nationally recognisable as a qualification and locally appropriate, and which took into account labour market characteristics. This sensible approach required a combination of national criteria and local flexibility, to easy in practice to achieve. Most important for the longer term, the FEU, unlike the MSC, accepted that the existing structure of further education institutions should be the starting point and provide the framework for action. This is a fundamental point. The MSC in advancing the YTS, started with a deficiency model - deficient content and pedagogy, deficient structures - and sought to remedy both by setting up its own, new programmes which would be (largely) independent of the existing school/college system. The FEU, however, took as its starting point the experience and potential of the existing system and argued for evolutionary change with that system as the base of operations. Acknowledging its limitations and defects, the FEU nevertheless has consistently taken the view that reform from within was the more desirable course to follow.

In many ways, the FEU's assumptions were realistic and cost effective, and better grounded in the deep structure of assumptions about what is appropriate provision, than the grand strategy of the MSC. On the other hand, without that grand strategy, neither the penetrating critique nor the necessary mobilisation of resources that have characterised

the new vocationalism would have occurred.

In the FEU proposals, colleges would determine the curriculum on a local basis with the help of agencies such as the Careers Service, MSC Area Boards and local education authorities. The need for focus would be met by a common area of studies, to be too job-specific would be inappropriate, so various combinations of common core, vocational and optional studies would be made available. They could be achieved in a number of ways. Colleges might group courses around their existing departments such as 'hotel and catering', 'building and construction' or 'the caring professions'; or around groupings of skills cutting across these divisions; or around local industries.

While the FEU was not concerned with a full-blown national plan, it stressed the advantages to be gained from rationalisation of courses and in particular from national validation. Mention was made of the argument contained in the report by Garnett College, *One Year Pre-employment Courses for Students Aged 16-Plus: a Survey of Provision in Colleges of Further Education*, that the proliferation of courses is one of the major factors working against their recognition and perceived usefulness to students. Emphasis was to be placed upon assessment and the provision of a nationally recognised award available to students who successfully complete a validated course. This is a sign of the spread of the determination, already discernible in the MSC and the Department of Education and Science (DES), for clarification, rationalisation, centralisation and hence control of qualifications, which appears to be an essential feature of the new vocationalism. The important issue, still unresolved, is whether this will result in unsterile tidying up, a further large concentration of power at the national level, or in increasing recognition and currency for a range of useful qualifications.

The quest for new 16-plus qualifications

This is not the place to recount the long, frustrating and still in conclusive saga of proposals and attempted reform of

curricula and examinations for 16- to 18/19-years-old remaining in full- or part-time school or college education. There have been many studies of and commentaries on this unedifying episode of contemporary educational history. The continued dominance of the GEC A level examinations, designed for a small minority of the age group and geared towards the single subject and joint honours degree programmes of the British universities, have been one factor but not the only one, militating against a fundamental restructuring. The Schools Council for Curriculum and Examinations, the Committee of Vice-Chancellors and Principals, the DES and the examining bodies have been among those essaying major reforms. The successful combination, at 16-plus, of the previously separate routes of GCE O levels and Certificate of Secondary Education, in the form of the GCSE, is one of the few examples of a major reform in this arena that was carried through to successful implementation and even it has been under attack for allegedly 'jeopardising standards'.

Among the key reference points in the establishment of new 16-plus qualifications is the construction by the National Council for Vocational Qualifications and General National Vocational Qualifications. The NVQs and GNVQs are the source or expression of criteria for accrediting qualifications to pre-determined levels. Although not in themselves qualifications, the NVQ/GNVQ frameworks are designed to have a powerful impact on courses and qualifications. The cases of the Certificate of Pre-vocational Education and its successor the Diploma of Vocational Education, are interesting in this respect.

Certificate of pre-vocational education and its successor

The FEU has not been without influence in the quest for new qualifications that respond to changing realities. In response to *A Basis for Choice* the DES took a decision in favour of a new 17-plus qualification, the Certificate of Pre-vocational Education, thereby declaring its intention to make headway in one of the most intractable areas of British educational polity,

namely the territory that lies between O level and A level. This qualification, as it emerged from the thickets of educational practices, policies and politics, soon too on a form both narrower and more instrumental than the FEU seems to have envisaged in its consideration of alternatives. It and its proposed successor, the Diploma of Vocational Education, are part of a lengthy, inconclusive saga dating to the Crowther Report which enshrined the specialist, academic subject as the key to post-16 school curriculum and examinations.

In May 1983 the joint Board for Pre-vocational Education was set up by the Business and Technician Education Council and City and Guilds of London Institute at the request of the Secretary of State for Education in England and Wales. The Board was 'to establish a system of pre-vocational education on a national basis including a 17+ qualification' and to have new schemes introduced in schools and colleges from September 1985. The proposals, circulated to all those concerned as *The Certificate of Pre-vocational Education: Consultative Document*, aimed to meet the needs of about 100,000.

16 year olds of all abilities who would benefit from a further year of full-time education but who require a programme of learning and development neither conventionally academic nor purely vocational to help them prepare for adult life and work.

The courses should be 'demonstrably relevant to the needs of young people is emerging adults and prospective employees' and the curriculum should facilitate. Not only the acquisition of knowledge and analytical and critical skills, but also constructive and creative activity which involves putting ideas into practice, making, doing and organizing.

The CPVE programmes, as described in the document, should incorporate features which by then were becoming staple inputs in school and work-based vocational innovations:

- a balance of core, vocational and additional studies;

- learning through practical experience;
- planned work experience;
- provision for careers education, guidance and support;
- involvement of young people in the planning, organising and assessment of their learning.

The framework for the certificate contained three major components: the common core; the vocational studies; and the additional studies. Intended to take up 60 percent of course time, the ten defined core areas were: personal and career development; communication; numeracy; science and technology; skills for learning, decision-making and adaptability; practical skills; social skills; and creative development.

The vocational studies were to be based upon clusters of activities which have a common purpose and related learning objectives and were included because they:

- (i) are relevant to young people and may therefore enhance motivation;
- (ii) provide the focus for the development of the required core skills;
- (iii) provide for development of broad vocational skills to appropriate standards;
- (iv) provide an important basis for progression into employment, further education and training.

Standards of attainment were to be linked with these nationally agreed for entry into employment and initial and continuing training, with assessment based on a variety of performances.

The additional studies 'provide encouragement and opportunity for young people to complement their core and vocational studies with other activities relevant to their own particular interests, capabilities and aspirations'. The additional studies were an optional element, to use up to 25

per cent of course time, designed to meet individual needs and interests within the curriculum and might lead to additional qualifications.

The first CPVE programmes started in 1985 and the first certificates were awarded in 1986. The envisaged character of CPVE as a curriculum development can be explored in intentions expressed in various public documents. In government White Papers *Training for Jobs* and *Education and Training for Young People*, it is referred to in passing under the heading of developments within education which play a part in equipping young people for work. *Better Schools* stresses the tiding up role of the CPVE, which is intended to replace a range of existing courses including the pre-vocational courses of the CGLI, BTEC and the Royal Society of Arts, and the Certificate of Extended Education offered by most CSE and GEC Boards.

To think of CPVE merely as 'tiding up' is, however, to overlook its relationship with the principles outlined in *A Basis for Choice* are a reminder of the strong conviction, during the period when the YTS was attracting substantial resources and publicity, that education and training, general and specific preparation for working life and adult roles can and should be combined with in comprehensive post-16 programmes in which formal education can collaborate closely with the workplace. As school participation rates rise, the impetus for a separate, YT type of training diminishes and the A level system retains its hold, the need for the thinking and planning that resulted in the CPVE will become ever greater, but it will need to be considerably developed beyond the rather circumscribed limits of the initial formulation.

A Basis for Choice did not attempt to address the full range of educational opportunities available to all 16- or 17-year-olds and the CPVE was limited in its potential audience. Neither was part of an explicit, overarching policy designed to clarify structures and co-ordinate provision.

The authors of *A Basis for Choice* considered that a

common core of learning was an important ingredient for courses and recommended a core which it described as not new but...derived from knowledge of existing good practice'. Recognition of the value of courses would, in their view, require an identifiable core of learning in and between courses, which was nationally validated, recognised as educationally sound, and which guaranteed certain levels of competence in basic skills in those who gained a certificate. The criterion of transferability carries implications for the nature of these core studies, as does the need for flexibility and the desirability of a vocational focus.

The claim for a link between the acquisition of competences needed for survival in an increasingly technological but ill-defined work context and a broad framework of common core leanings is exhibited in the Technical and Vocational Education Initiative, YTS and CPVE alike. In the CPVE, the common core contribution is described in terms of objectives, learning opportunities and methods of approach to teaching and learning. It is based mainly on the apparent advantages of blurring subject boundaries and avoiding jerky transitions and/or unnecessary repetitions and on the much stressed integration of core and vocational studies. At its inception, the CPVE as a whole—core and vocational studies—was intended, among other things, to 'assist the transition from school to adulthood by further equipping young people with the basic skills, experiences, attitudes, knowledge and personal and social competencies required for success in adult life including work'.

As in the YTS, its was also expected to promote the acquisition of 'process skills' such as 'those of analysis and problem-solving, social skills, personal qualities such as resilience, autonomy and responsibility'; and the capacity to transfer competences from one situation to another. Again, as in YTS core skills, the common core was intended to be used as a checklist against which the performance of individual young people must be matched in order for starting points and learning programmes to be agreed.

Throughout the Consultation Document, emphasis was placed on personal attainment recorded in individual *profiles* together with certification for all who completed the course and combined with validation to national criteria. Thus the award aspired to embody achievements in 'core and vocational studies with an indication of their highest levels reached where appropriate, together with a statement of the context within which the skills were demonstrated'. The blueprint contained all the then 'acceptable' elements - reflection of individual needs, recording of achievement, certification for all who complete - yet it promised to offer levels of achievement, quality control and recognition and currency for the award.

From this overview of aims and structural features, it is clear that the plan for the CPVE, while locating it firmly in the heart land of the new vocational thinking, envisaged a broad range of educational values and procedures. It was to be, in a sense, the education system's vocational showpiece for the 16-plus age group. It is not our purpose to attempt to assess the efforts made to implement the CPVE and the various kinds of resistance both direct and indirect that it encountered. Despite proving popular with staff and students, less than a decade after its introduction it had suffered the fate of many other initiatives lack of significant uptake and lack of credibility among employers and the academic community. Moreover, its alleged lack of rigour and limited screening functions have made it appear in some quarters as unduly accommodating educational values that rest uneasily with the more recent approaches through highly stratified, output-based assessments.

In 1990, the Minister of State for Education announced that from September 1991 schools could offer BTEC First courses - effectively providing direct competition to the CPVE from one of its existing joint sponsors. Subsequently, the CGLI was given sole responsibility for the CPVE, with a brief to bring greater rigour into its assessment and ensure clearer progression routes for students. The CGLI proceeded to

produce a new qualification, the Diploma of Vocational Education (DVE) to replace both the CPVE and foundation programmes. Yet again, a new qualification containing valuable ideas seems to have vanished beneath 'structural reform', in part no doubt because of inadequate preparation and lack of consensus between the several parties involved or likely to be affected.

The DVE, in the line of descent from the CPVE but with close linkages with the new structures for general and vocational education, will cater for a wider age range (14-19 years) and be taken at three different levels. Like CPVE, the DVE will have a hybrid quality. The genuine educational objective of putting form and purpose into what has been called a 'pot-pourri' of 16-plus activities will continue to be combined with a sweep of the new vocational influences—the world of work, emphasis on qualifications, short-term employer versions of personal development. A fairly prescriptive curriculum including a common core of the familiar studies and studies with 'vocational clusters' will be a feature of the DVT. Thus, the DVE will, like the CPVE, maintain a strong orientation towards further, vocational specific training or employment.

Alongside the DVE is to be another new qualification, the Technological Baccalaureate, launched in 1991 and piloted, significantly, in several City Technology Colleges and schools and other colleges. The Technology Bac is tailored to the framework of key stages and levels to permit successful candidates, according to the degree standard attained, to proceed to higher education, advanced further education, or further education and training (NVQs). It is thus a typical case of the adaptiveness—or opportunism—of the examining authorities.

Orienting the secondary curriculum towards work

The general educational foundation of preparation for work and adult life have long been recognised and claimed by the schools, but the meaning of vocational education in the

current 'new vocationalism' context involves certain ideas which embody or imply criticism of schools and general, liberal education. The challenge to schools has been: first, to establish closer links with the workplace - that is, work experience, simulated work experience, learning more relevant to the pupils' future lives, links between teachers and local industry, etc.; second, to deploy more practical, problem-solving, initiative-building teaching methods; and third, to give greater attention to the acquisition of concrete, measurable, testable skills and competences.

This functionalist strand of educational philosophy has been evident in policy-making and in practice in some schools for many years, certainly since before the establishment of the MSC or the FEU, though it has been strengthened and accelerated in the 1980s. It can be clearly identified in the literature, appearing from time to time over the last 150 years or so of English education. Moreover, the functionalist and instrumentalist elements do not tell the whole story, since the progressive movement in education in the late nineteenth century and well into the twentieth provides many antecedents to the current emphasis on student-centred education, practical and experimental learning and so on.

Government policy for schools throughout the 1980s was increasingly influenced by the new vocationalism. The *New Training Initiative* which, outlined proposals for a better trained and more flexible workforce and introduced the YTS, also stressed the need for better preparation in schools for working life.

The last two years of compulsory education are particularly important informing an approach to the work of work. Every pupil needs to be helpful to reach his or her full potential, not only for personal development but to prepare for the whole range of demands which employment will make. The Government is seeking to ensure that the school curriculum develops the personal skills and qualities as well as the knowledge needed for working life, and that links between schools and employers help pupils and teachers to

gain a closer understanding of the industrial, commercial and economic base of our society.

This is noteworthy as a clear statement, at the beginning of a decade which witnessed more changes in educational policy than any previous decade, or the responsibility of schools for economic performance. What is interesting is not so much that government wished to stress these objectives - what government faced with declining economic fortunes would not? - but that it was felt necessary to adopt a strongly interventionist stance to do so.

In 1984 another White Paper, *Training for Jobs*, again primarily concerned with developments in the YTS, stressed the contribution of the schools. It itemised arrangements for the CPVE; for increasing links between employers and schools and colleges, and for introducing the TVEI. But the first item was the school.

The school curriculum is being developed for this purpose. Objective have been set for mathematics and will shortly be set for science teaching. National criteria are being established for the improvement of the 16-plus examinations and their syllabuses. New programmes are in operation for micro-electronics education and for pupils for whom the 16-plus examinations are not designed.

Many other statements aimed at fostering close links between the secondary curriculum and work appeared throughout the 1980s. However, perhaps the most decisive action was that taken by the KSC in launching the TVEI.

The technical and vocational education initiative (TVEI)

The MSC's involvement in preparing young people for working life was taken a step further when the government diverted money from the DES to the MSC and that organisation embarked upon youth training and entered the schools system. This was with the acquiescence of the DES and resulted in the introduction of the TVEI into the curriculum for 14-18-years-olds. It was a momentous decision, signifying the

largest ever curriculum development project funded and administered by central government with consequential developments in schooling in all parts of the country. The aim was simple, direct and audacious: to change the curriculum for the 14-18 age group by giving it a more practical and applied character and drawing out its function as a bridge to the world for work.

On 12 November 1982 the Prime Minister announced the government's intention to launch an initiative to stimulate the provision of technical and vocational education in the schools, beginning at age 14. The MSC was invited to establish some ten pilot projects of full-time general, technical and vocational education in England and Wales in association with the DES and through local education authorities.

Programmes, although broadly work-oriented, were to be within the education system with LEAs bidding and being bound by the contracts awarded to deliver specified programmes. The lessons from the early, pilot projects were intended from the start to provide a basis for lasting educational developments for 14-18-years-olds. At the sometime, like the YTS, the TVEI had no established syllabus; aims and objectives were not narrowly defined and through pilot projects, evaluations and a great deal of debate and discussion, a considerable variety of practice and approach emerged across the country. As with the YTS, the TVEI was to be directed by national guidelines allowing considerable local flexibility. In order to obtain MSC support, programmes had to fulfill criteria defined by a National Steering Group. Although there was no overt mention of a core of skills as such to be learnt, all programmes had to include a common or 'core' element; and the characteristics identified for the content of the programmes, as we see below, included areas common to other vocational innovations. The TVEI includes general, technical and vocational elements; "vocational education" is to be interpreted as education in which the students are concerned to acquire generic or specific skills with a view to employment'.

Since the purpose of each project, and the TVEI as a whole, was to explore and best programmes of general, technical and vocational education for 14-18-year-olds suitable for replication, a series of very different projects was deliberately launched. Within the overall framework, the goals of the individual projects were numerous and varied, ranging from the introduction and development of new practical/vocational courses through building links with work and adult life to improving examination performance. What those projects had in common was a definite content orientation.

Each project should comprise one or more sets of full-time programmes with the following characteristics:

- (1) Equal opportunities should be available to young people of both sexes and they should normally be educated together on courses within each project. Care should be taken to avoid sex stereo typing.
- (2) They should provide four year curricula, with progression from year to year, designed to prepare the student for particular aspects of employment and for adult life in a society liable to rapid change.
- (3) They should have clear and specific objectives, including the objective of encouraging initiative, problem-solving abilities, and other aspects of personal development;
- (4) The balance between the general, technical and vocational elements of programmes should vary according to students' individual needs and the stage of the course, but throughout the programme there should be both a general and a technical/vocational element;
- (5) The technical and vocational elements should be broadly related to potential employment opportunities within and outside the geographical area for the young people concerned;
- (6) There should be appropriate planned work experience as an integral part of the programmes, from the age of 15

onwards, bearing in mind the provisions of the Education Act 1973;

- (7) Courses offered should be capable of being linked effectively with subsequent training/educational opportunities;
- (8) Arrangements should be made for regular assessment and for students and tutors to discuss students' performance/progress. Each student, and his or her parents, should also receive a periodic written assessment, and have an opportunity to discuss this assessment with the relevant project teachers. Good careers and educational counselling will be essential.

Students would normally be expected to obtain one or more nationally recognised qualifications, according to ability; and they would be issued with a record of achievement. Industry and commerce were to be involved as partners in design and delivery and not merely as recipients of the finished 'product'. All of this has a most familiar ring: the TVEI has been part of the wider strategy whose assumptions and major elements we have seen in the different settings of the new vocationalism.

In September 1983, fourteen LEAs started the first year of TVEI programmes. This involved 4,315 pupils in 10 schools. A further 48 LEA pilot projects began in 1984. Scotland joined, but later; the reason offered by one commentator is interesting:

'Caledonian caution', a concern to ensure that participation in the initiative would not compromise Scottish educational developments, or breach educational principles which had been established in Scotland as a result of the experiences gained in attempting to introduce vocational elements into the curriculum of Scottish schools during the 1960s.

These experiences led the Scots to abandon the idea that the schools curriculum might be built around 'the vocational

perspective'; rather, a balance was required between the vocational emphasis and the broader curriculum of the schools.

In its first phase, the TVEI catered for a small percentage of the relevant age group. But in the light of initial experience, and the willingness of most local authorities to co-operate, plans were announced in the summer of 1986 to extend the TVEI as an option for the entire 14-18 age group by 1997. Funding per school was to be lower than during the expensive pilot phase. Twelve LEA projects began in 1985, twenty-one in 1986, eleven in 1987 and the remainder in 1988. In 1990, budgetary cuts meant new schools would have less than half their anticipated funding, leading a new schools would have less than half their anticipated funding, leading a number to threaten to withdraw from the scheme. Nonetheless by 1992, the TVEI had become available UK-wide with, for 1992-93, over 1,000,000 students involved, 5,000 schools participating, and all LEAs involved. Responsibility for the TVEI has remained with the MSC and its successor agencies, although the Training and Enterprise Councils (TECs) have shown strong interest in the now 900 million/year activity, as indeed has the DES/DFE.

The TVEI, like the YTS, was a favoured child of the new vocationalism movement. Viewed in one light, it is at the cutting edge, a leader among a series of national initiatives to improve preparation for work in life through education and training; in another light, it is part of a series of arrangements devised to impose central government policies on education and training organisations by cash and directive. Its introduction implied dissatisfaction with the exiting curriculum in the schools. Like the YTS, it appeared to be designed to meet a specific utilitarian objective - to provide for employers' needs.

The DES in *Better Schools* gave a lengthy resume of what the TVEI, at that time, was seen to offer:

The TVEI embodies the Government's policy that

education should better equip young people for working life. The courses are designed to cater equally for boys and girls across the whole ability range and with technical or vocational aspirations, and to offer in the compulsory years a broad general education with a strong technical element followed, post-16, by increasing vocational specialisation. The course content and teaching methods adopted are intended to develop personal qualities and positive attitudes towards world as well as a wide range of competence, and more generally to develop a practical approach throughout the curriculum. The projects are innovative and break new ground in many ways, being designed to explore curriculum organisation and development, teaching approaches and learning styles, co-operation between participating institutions, and enhanced careers guidance supported by work experience, in order to test the feasibility of sustaining a broad vocational commitment in full-time education for 14-18 year olds.

The form and content of TVEI pilot schemes during the early, creative phases recognised the need for more active learning methods, to meet the challenges posed by changes in industry and the rapid development of technology. Assuming the need for pupils to learn through experience, and to solve practical problems requiring the use of initiative, team work, etc., as a preparation for work, the TVEI's objectives were first to widen and enrich the curriculum in a way that will help young people to prepare for the world of work, and to develop skills and interests, including creative abilities, that will help them to lead a fuller life and to contribute more to the life of the community; and second, to help students to learn to learn, to enable them to adapt to the changing occupational environment. Specific guidance on how to achieve these methods of learning was not given at this time.

The TVEI did not define a core, list core studies or identify essential core skills, though all the first fourteen TVEI pilot projects included some core elements which can be seen as, in practice, constituting a 'TVEI core': for elements which

can be seen as, in practice, constituting a 'TVEI core': for example, careers education and planned work experience, incorporating preparation and follow-up in school. The balance between 'core and 'options' depended very much on local decision, but the first projects, either through core or options, tended to offer broadly similar set of learning opportunities - for example, variety of vocational experience, technology, design, computers, business studies and science. Given the provenance of the TVEI and the purposes it was intended to serve, matters could hardly be otherwise.

The administrative and financial arrangements for the TVEI were innovatory. While in some ways they were more directive and inflexible than the financing methods used by the MSC and its heirs in the YTS, they at the same time offered schools a certain freedom to experiment. Local education authorities were responsible for the formulation and delivery of project proposals. These needed, however, to satisfy centrally determined criteria. The TVEI as a whole was initially administered through a small unit in the MSC, in liaison with the DES over major policy matters. Elaborate involved the MSC, Her Majesty's Inspectorate (HMI) in the DES and the LEAs themselves. Funds available to support the TVEI were normally allocated to meet costs of additional staffing, premises and equipment. In principle, teachers with TVEI allowances might be required to justify receipt of them by their performance, while the percentage of pupil time on the TVEI and the content of activity differed considerably from project to project. In practice the MSC funds potentially offered much needed encouragement and momentum for schools and teachers confidently to explore what they may already have been striving to offer or trying to develop piecemeal. In the words of the *TVEI Review* of 1984, MSC funding enables LEAs to broaden and enrich their existing provision, so as to explore and develop technical and vocational education within a framework of general education for each student involved. In general term, TVEI activities are broadly based in order to prepare students for a rapidly changing world and to avoid premature specialisation. Thus

the changes in the curriculum as a result of TVEI go beyond only narrow definition of technical and vocational education.

At the same time LEAs operating TVEI were instructed that: Each programme should be part of the total provision of the institution(s) in which it takes place so that the students may take part with others in the life of the institution(s). (The education offered in the institution(s) to those not on the programme should continue to contain technical or vocational elements as appropriate and those not on the programme should not be adversely affected by the conduct of the programme.)

The exploration, innovation, and experimentation supported by TVEI and MSC money were from the outset intended to be set firmly in a broad general education context. In terms both of the national structure supporting it and its thematic orientation, the TVEI suggests a strategy that posited age 14 as the terminus of serious endeavours to sustain a fully comprehensive education for all. With the apparent move in many 'extension' schools, however, away from seeing the TVEI as a separate course and towards a broader enhancement of many existing curriculum areas for all pupils, this object may not be achieved.

As Roger Dale points out, the early outlines of the TVEI explain little about why it was set up in the way it was; in order to reach conclusions about its real intentions it is necessary to examine the problem it was created to solve. This is not, however, so difficult. Government statements, as we have seen, have tended to define the problem mainly in terms of making good the schools' lack of preparation for successful acquisition of, and performance in, a job. Indeed David (now Lord) Young, as Chairman of MSC in 1982, believed when introducing the TVEI, that it would lead to young people becoming 'highly employable' by the time they left school. But the TVEI as it has come to be organised in practice need not be viewed only in more functional vocational terms. It is equally possible to emphasise its role in developing communication between schools and industry and its potential as a catalyst in

the 14-plus curriculum. Much depends on three factors: local circumstances, including pre-existing school-industry links; how it is introduced and managed in individual schools; and the qualifications with which it is associated. The strategy that envisages a parting of the educational ways at age 14 would be aborted were the schools themselves to build the TVEL into the heartland of the curriculum for all.

The effect of the TVEL in any school and its power attract and keep pupils over a wide ability range depend at least in part on each school's interpretation of the guidelines, but most of all on what Dale describes as 'the salience' of the scheme within the schools. This in turn depends on a number of factors; how the scheme is publicised to staff, pupils and parents when selecting options for 14 plus; whether it is developed through existing subjects taught with a new approach or through a series of new subjects and courses; whether it is offered openly to a targeted group, defined by ability, or implicitly by the subject options which it is associated with; the calibre of the teachers and so on.

Early studies of the TVEL suggested that it soon attracted some A level students and boosted staying-on rates at school. In 1986 in Solihull, for example the percentage of the age group staying on in schools after 16 was 10 per cent; but among TVEL students entering their third year, the retention rate was 50 per cent. Moreover, the TVEL began to infiltrate A level courses. Sixth-form college A level students getting experience of the TVEL for the obligatory non-GCE work found it a challenging option.

These assessments refer to the early, more innovative phases in the development of the TVEL, when it attracted a good deal of positive interest notwithstanding anxieties about the inroads being made by an essentially employment-based agency (MSC) into the school system. Extension, following the joint DOE/DES White Paper, inevitably meant greater consistency and an attempt to sift from the diverse experiments of the pilot phase approaches that seemed to hold greater promise for a national policy. The national curriculum

was being developed concurrently. From one point of view the prescriptive character of the national curriculum undermined the diversity inherent in the TVEI and together with other factors weakened its impact: 'The status of TVEI was gradually being undermined and marginalised by displacement by other educational reforms and the diminution of its funding'. From another standpoint, however, the TVEI succeeded precisely because of its incorporation into the new curriculum policies and structures. The frequency of change is not, however, justified by such incorporation. Is the TVEI yet another vocational initiative introduced without due thought being given to its implications and likely consequences for these system as a whole?

For schools, the TVEI has been a central strand of the new vocationalism because of its aims, its explicit work orientation, its method of introduction, and financial arrangements. It has the familiar form of compulsory criteria coupled with curricular flexibility, itself a curious if increasingly accepted combination. Unlike the YTS, its pilot and evolutionary stages have not been rapidly followed by greater prescription and reduced flexibility; however, in the extension phase, the TVEI was broadened to the whole curriculum and linked with other initiatives, inevitably with the national curriculum for schools. It is still the individual interpretations of local authorities and the freedom of teachers, if they care to exercise it creatively in whatever they teach, which will decide the shape of the programmes. What the TVEI has to offer for replication nationally is its individual approach to curriculum planning, grounded in the work orientation stated in its first set of aims, rather than a standard package, together with potential as a catalyst for the 14-plus curriculum. The initiative has had a number of positive results, the method of financing has ensured the establishment and not only the design of new courses; nor practical and applied work is observable in classrooms; links with local employers have been established.

The advent of the national curriculum posed a real

challenge for successful expansion of the TVEI to all schools, not because it would of necessity exclude it but because of the need for teachers and authorities to recast their approaches in the new curriculum framework. As yet it is not clear how it welfare, given that the TVEI is still a programme for some, not all students. However, the TVEI has been credited, by HMI, with a role in the development of GCSE and in the evolution of cross-curriculum themes in the national curriculum.

While specific studies of the TVEI, such as those by researchers at New castle and Leeds Universities, and more general appraisals of policy and direction including those cited above, give rise to rather diverse conclusions, two points are clear. First, the TVEI has been a highly innovative and dynamic national programme which quickly made visible several of the main themes in the government's commitment to and understanding of the new vocationalism. Second, as a funded initiative designed to grow attention to one of the elements in a shifting, evolving set of national policies and programmes, the TVEI would eventually be assimilated of closely related to the emerging foci of concern in those policies and be subject to the common pattern of innovation funding whereby start-up expenditures are progressively reduced. With the reservations noted above - that is, the too rapid succession of new initiatives - the TVEI legacy will be the impetus and reinforcement it has given to the central vocationalist idea that schooling should, among other functions, orient young people towards work and actively assist them to prepare for working life.

Enterprise culture and partnership

While the most obvious features of the new vocationalism in the developments and specific programme innovations discussed in this chapter are summed up in the terms 'vocational' or 'work orientation', direct work preparation or vocational training have to be put in a much broader context. On the one hand, the foreshadowed distinctive vocational culture and separate administrative structure have gradually been assimilated to the general

education system specifically of schools and further education colleges. On the other hand, the urgency of the youth unemployment problem has diminished: it is an acceptable and 'politically bearable' problem; the youth labour market has virtually evaporated except for part-time and certain low paid jobs and the informal labour market. For these reasons, changes in the formal educational structure, in curriculum, teaching and learning and relations with the wider environment, must become the central concern of policy-makers and developers, whether specifically identified as 'vocational' or 'general', 'training' or 'education'. Attention must, once again, be focused on the fundamental challenges to schooling - broadly defined, and away from specific, particularly non-school-based, preparatory courses for adolescents with employment in mind.

Many of the ideas and practices which emerged in the more specific work preparation programmes have become of recognised value in schooling - as we saw in discussing the TVEI. One of them, school industry partnerships, has long been a feature of vocational and technical education institutions and programmes. Another, enterprise skills, is closely associated with changing practice in work organisation and with the attention labour market and employment policy-makers have been giving to the skills needed by people who will gain employment by setting up their own businesses or in small-scale enterprises. 'Partnerships' and 'enterprise skills' are likely to gain considerable support in schooling, at all levels, since they coincide with long-established educational ideals and practices: school-community relations and the fostering in schools of initiative, creativity, independence and the ability to work with others.

A large number of projects and programmes under the banners of 'partnership' and 'enterprise education' have sprung up within the orbit of the new vocationalism with, on the ground locally, often considerable interaction between the projects and programmes. The most common forms of school-

industry links in English secondary schools have been: work experience placements, curriculum development involving industry and problem-solving projects specifically with industry. The development of such school-industry partnerships has also been widespread since the 1980s among other industrialised countries, with the key emerging pattern being that 'the vast majority of partnerships are small, local and basic'.

There are, in effect, two definitions of, or approaches to, the work 'enterprise' and the practice of it. One approach, which can be termed a 'narrow' one, regards enterprise as business entrepreneurialism, and sees its promotion and development within education and training systems as an issue of curriculum development which enables young people to learn, usually on an experimental basis, about business start-up and management. The second approach, which can be termed the 'broad' one, regards enterprise as a group of qualities and competences which enable individuals, organisations, communities, societies and cultures to be flexible, creative and adaptable in the face of, and as contributors to, rapid social and economic change. What is significant about the implications of the broad approach for educationalists is that it requires changes in education methods and pedagogy towards what is termed 'enterprise learning' rather than changes in the curriculum.

School-industry partnerships and compacts

The recent activity in school-industry partnerships in the UK is traced by Lawlor and Miller to the Schools Council Industry Project, established in 1978 soon after James Callaghan's Ruskin College speech. Involving the Confederation of British Industry, it emphasised from the beginning local solutions to local problems, work experience, the development of simulations and case studies, and has pioneered mini-enterprise in schools. The launch of the TVEI in 1982, as we have seen, gave a strong impetus to variety of school-industry contacts, during both its pilot and extension phases. Industry, Year, designated in 1986 by the Royal

Society of Arts, proved a concerted attempt to raise the esteem in which industry was held, through bringing together into local committees people from education and industry, to organise at least one activity or event in every school and college during the year.

In September 1988, the Enterprise and Education Initiative was launched by the Secretaries of State for Trade and Industry, Employment, and Education and Science. The initiative was to encourage more employers to become involved with their local schools. In particular, a network of advisors on enterprise and education, mainly based in the private sector, is being established to help employers link up with schools in their area. They will work closely with all those involved in business and education link activities in their areas and will contribute to better co-ordination at the local level. Specific objectives include ensuring that enough employers are involved so as to provide work experience for every pupil before leaving school and for 10 per cent of teachers a year.

Initiatives in the higher and further education sectors were also outlined at the same time.

In 1990, another grand initiative, the Education Business Partnership Initiative, was announced by the Secretaries of State for Employment Education and Science, and Trade and Industry.

Partnerships between education and business offer opportunities to make education more relevant to life and work; to raise standards and levels of attainment, to raise enterprise awareness and industrial understanding amongst teachers and students, and to inform and develop advice and counselling so that individuals are better placed to build and use their skills.

A number of demonstrable outcomes were expected from partnership activities, including:

- increased business involvement with; and support for,

primary and secondary education;

- improved opportunities to assist students in school and college in the transition work;
- increased volume, relevance and breadth of information and guidance offered to students by careers teachers and the Careers Service;
- increased numbers of young people staying in relevant and appropriate full-time and part-time education;
- improved access to, and participation in, further and higher education.

The partnership, which was to be developed locally by the then newly established TECs, thus had very ambitious and wide-ranging goals, with the expectations that activities in each locality would vary.

Of particular note among the plethora of school-industry link activities has been the development of compacts, modelled on the Boston, USA, compact of the early 1980s. The 'London Compact', launched in March 1987, was essentially an agreement between schools and employers in an area of high social and economic deprivation, with a history of mistrust and hostility between employers and educators. The agreement guaranteed offers of local jobs to pupils at participating inner-city schools if they fulfilled their side of the compact. This meant students attending 85 per cent of lessons, meeting nine out of ten deadlines for all assignments, completing a school record of achievement and satisfactorily completing two weeks of work experience. Ainley notes that in reality,

While they do not explicitly guarantee employment, employers undertake to give priority in job offers to those school-leavers who achieve the educational targets. This can mean a guaranteed interview or a reserved place on a company-run Youth Training scheme. Participating employers also support school-industry links with the schools involved, by offering work experience, work shadowing,

holiday jobs and teacher-industry exchanges.

Run by the London Education Business Partnership, the scheme initially involved the now defunct Inner London Education Authority and a consortium, of companies, among them Whitbread, whose communist programme director, Richard Martineu, was the moving force behind the initiative. One of the compact's main initial objectives was to encourage continued education in schools and colleges and increase the level of training at work. Employers would give day-release for school-leavers to continue studies and improve their qualifications. In the London pilot schools, teachers reported a dramatic growth in pupil retention at school after 16, where the compact's guarantee of a job held good until pupils were aged 18. Other effects to do with positive orientation towards work and becoming better qualified were reported.

The first year of the London Compact was seen as so successful that in 1988 the government adopted the idea and launched the compact initiative nationally, in the context of its Action for Cities Programme. For the national initiative.

A Compact is an agreement between employers, young people, schools and colleges. Employers guarantee a job with training, or training leading to a job, to at least YTS standards, for every participating young person who has achieved a set of agreed personal goals and objectives. And every school and college involved undertakes to support and encourage young people in the achievement of standards and competences. Eventually, employers may wish to encourage young people to go onto further and higher education in order to meet their skills shortages at professional, managerial and technical level. This encouragement could include individual sponsorship, work experience and either full-time release.

In the first year of the programme, the government funded compacts in thirty areas of the country, and by 1989 it had become a 17 million programme of the Department of Employment. Subsequently, new forms of compacts were initiated in which higher and further education institutions

guaranteed places on programmes to local students if they met previously agreed criteria. In at least Birmingham and London, there has been considerable productive interplay between compacts and the TVEI in local schools.

The interest of the compact initiative is in the positive - and formal - support seen to be given by local industries and employers to the mainstream education system; expensive new initiatives of the CTC variety, discussed below, are not part of the approach. Compacts are practical, unostentatious and something which could feasibly be - and indeed have already been - generalised to many areas of the country. Experience of combats has shown that the idea of a deal between schools and businesses linked to student performance and recruitment can indeed help generate enthusiasm, but needs to be handled with care. Inevitably, comparisons are drawn between the CTC and compact initiatives and employers have generally had to choose which to support, given the limitation on resources.

New kinds of schools

Consistent with its intention to reintroduce into a putative comprehensive system firm distinctions between different routes, whether to higher education or to a restructured technical - vocational system, late in 1986 the government announced plans to establish, as part of its Action for Cities Programme, twenty independent City Technology Colleges in selected inner-city locations. Each was to take between 750 and 1,000 11-18-year-old students across the full ability range. It was intended that the first colleges would open in 1988, and the full twenty be in operation by 1990. While progress has been less rapid than anticipated in these optimistic forecasts, the CTCs are yet another manifestation of the national endeavour to build bridges between education and employment.

Their purpose will be to provide a broadly-based secondary education with a strong technological element there by offering a wider choice of secondary school to parents

in certainties and a surer preparation for adult and working life to their children.

To be established first on a pilot basis, with the hope that their influence would spread, they were expected to adopt the best practices of the TVEI and successful secondary schools generally. Their status was to be that of registered independent schools, subject to inspection by HMI but charging no fees, and functioning alongside existing secondary schools. While they would obtain financial assistance from the DES, a substantial part of their cost was to be met by 'promoters', a return to the voluntary principle, but a pious hope as subsequent events proved.

CTCs, despite the moderate success thus far in attaining the targets set by government, are of significance at this stage insofar as they signal strategies that go far beyond the institutions themselves. Behind the fundamental policy objective of government to interest the private sector in funding, and thereby to revive the dormant tradition of voluntary provision, lay another purpose, namely the weakening of power of local education authorities, a policy since pursued with great vigour and on a number of fronts.

It was initially intended that CTCs would be established in twenty-seven designated inner-city areas, either purpose built on vacant sites or through purchasing redundant schools. A shortage of suitable sites bedeviled the scheme from the start, and, despite the initial intention of their serving deprived inner-city areas, there has instead been a first come first served approach to their approval, depending on available sites and sponsors being found. There appears, now, to be no geographic plan behind identifying potential CTCs, with three of the first fifteen close to each other in the outer London area.

Sponsorship was much slower than anticipated, with the government by 1991 moving from the position that 'the principle of funding will be that the promoters will meet all or a substantial part of the capital costs' to one which saw

'private business and industry...providing substantial [sic] proportion - at least 20 per cent - of the capital funding for each of the colleges'. Recurrent funding is provided by the state. Because of the high-tech approach to resourcing the schools, individual school set-up costs have been very high, leading to situations such as that in Nottingham where some 9 million were spent on building the new CTC as against the city's entire annual capital expenditure on all its schools of less than 2.5 million. It is thus hardly surprising that the CTC programme has engendered resentment among many working in the less resource favoured state sector, especially at a time when parents are being encouraged to choose schools. While CTCs officially have a non-selective intake, the government-stipulated criteria are seen to be unworkable and there appears no doubt about their taking a disproportionate percentage of the more motivated students, if only because of their preferring those who agree to remain until age 18.

City Technology Colleges are certainly now under way, although the bold plans of twenty CTCs by 1990 was rather drastically revised downwards, with some fifteen to be operational by 1993. Even when the ultimate goal of twenty pilot schools is reached, however, they constitute a very small group in relation to the nation's 4,000 secondary schools and their impact must be awaited. With a few exceptions, industry has been relatively slow in supporting them, reportedly in many cases because of jeopardising existing links with local schools where productive school-industry partnerships exist. They are more substantially government-supported than anticipated and also in some instances have generated considerable local parent and community antagonisms, especially where existing schools have been closed down to be sold as CTCs. Disquiet over the impact of CTCs on the offerings, morale and intake in neighbouring schools has been of concern to many education authorities and for some commentators; this point could be more persuasively made if the government's growth targets for CTCs has proved in any way realistic.

Plans for a new network of voluntary-aided CTCs—utilising part of the 1944 Education Act compromise on the then dominant religious question—were announced in 1990. These plans would enable an existing LEA school to apply to become a voluntary-aided CTC—as long as the school could raise 500,000 from sponsors. The government would provide further funds for refurbishment. The CTC Trust hopes also to find a way of enabling grant-maintained schools to gain CTC status.

The CTCs are to be treated as independent schools with no statutory requirement for them to comply with the national curriculum. National curriculum goals are, ever so, expected to be influential in the different schools developing 'characteristic identities', and early indications support this.

Early indications, again, suggest that the learning programmes CTCs offer their pupils are innovative, and potentially challenging, drawing on much of the TVEI curriculum development of recent years—hardly surprising in a well-resourced, high profile new endeavour. Keeping up the momentum and establishing a well-structured 11-18 programme will prove a considerable challenge in years to come.

The form and content of the CTC curriculum as originally proposed by the DES put equal emphasis on technological content and on standards and attitudes: 'There will be a large technical and practical element within the broad and balanced curriculum...up to the age of 16. The importance of doing and understanding as well as knowing will be emphasised throughout'. Indeed, cross-curricular approaches based on projects and themes, mixed ability teaching and an emphasis on 'open' learning, backed by good investment in information technology have become the early trend.

Jones argues that

Increasingly, in CTCs, as elsewhere in secondary education, the emphasis is shifting from the discrete post-16 curriculum to planning for 14-19 education and training. For

the majority of young people this will mean a continuum rather than a cut-off point at 16, guided vocal choices beyond 14 leading to increased specialization towards 18 or 19, and a culture which takes for granted that education and training will continue throughout life.

In particular, CTCs are contributing to developments in: integrating post-16 education and the world of work; broadening the curriculum developing new vocational routes which have parity of status with academic progression routes to higher education; developing new curriculum methodologies (by piloting credit transfer schemes, developing modular curricula).

Following the Continental pattern, CTCs operate longer school days, and on more days in the year, than most state-maintained schools. This is to allow for more enrichment activities and a more varied curriculum, and appears to have strong student, parent and teacher support.

It seems probable that CTCs and other schools which take the opt-out/specialist route, with favoured treatment financially and selected pupils, will have sufficient vitality to general their own values and learning patterns. This is to assume that the whole scheme continues to make progress, a subject upon which there has been much debate. We are still at the stage where policies have been declared and initial progress made but not to the point where it is clear that the lines set in the early stages will become embedded in the educational and training system.

The establishment of independent CTCs takes a stage further the administrative device introduced by the intervention of the MSC into the secondary schools with the launch of the TVEI. In November 1982, the then Chairman of the MSC, David Young, observed:

Much has been made in the media...that the MSC has the power and the authority to open its own establishments, so let me say at the outset that we have no intention of doing that as I believe and hope we can work as partners with the local

education authorities. If that did not prove possible, then we might have to think again.

In practice, local authorities have been willing to bid for resources with which to experiment with the TVEI. We have seen some LEAs willing to bear the brunt of parent and community opposition to closing existing schools, then selling them to open as CTCs. But we have also seen only a handful of major sponsors coming forward to endow CTCs, and the government needfully committing vastly greater funding than initially planned to the project.

In common with most of the initiatives under the new vocationalism, for the CTCs there is a variety of ostensible objectives: to prepare children for jobs with a high technological content; to give parents greater choice of school and slow responsiveness to criticism of existing schooling; and to help fight inner-city decay. As with other new vocationalism policies, it is important to examine very carefully the real, sometimes hidden, objectives. The published material about the CTCs makes it clear that although the organising principles and pedagogy of the education likely to be offered in CTCs bear marked similarities to the YTS and TVEI, the real point of CTCs, as far as governments concerned, lies in their broader new vocationalism characteristics and in the potential of CTCs, in consort with the other developments, to weaken the ideology and to restructure the framework of all-through comprehensive education. The CTC initiative, like its forebears, increases central government power, at the expense of the local authorities. This is the DES/DfE version of the instruments used effectively by the MSC for rapid construction and change - mainly the disposal of substantial sums of government money.

The CTCs also form part of the government strategy of offering choice to the parent - the shopping basket of schools. Parents, keen to choose new publicity-conscious schools which appear likely to increase the pupils' job prospects, could well be attracted by the standards of discipline, the emphasis

on attitudes and the acquisition of qualifications. But many parents appear reluctant to do this at the expense of losing existing schools.

The most likely pattern of development is the establishment and successful operation of a relatively small number of CTCs. These will act as development and demonstrations ties for both official and unofficial ideas about more practical, applied, work/industry-related education. Their influence on the national system is likely to be quite moderate overall, but on specific topics - for example, project-based teaching, school-industry partnerships, advanced technology teaching - some of them may serve a lighthouse role. It is for these reasons, not the scale of the innovation, that the CTC project deserves closer scrutiny and its development will be watched with considerable interest by the whole education community and not only those with a particular vocational bent.

A not unrelated development is the Technology Schools Initiative (TSI) which was launched in December 1991 by the then Minister of State Tim Eggar. It aims at establishing a network of secondary schools committed to providing technology and associated courses of a strong vocational nature. Eventually the experience of these TSI schools should be disseminated system-wide. The initiative allocated capital funding for equipment and building work, totaling some 50 million, to 222 schools over the first two years.

The Need for Change

Education has always embraced vocational elements and aims. It has always combined eternal values and cultural objectives (achieved by the study of literature, science, history, mathematics, art and music) with the need to respond to the social, economic and industrial demands of the age.

There is a school of thought which suggests that somehow, out of the muddy waters of life, we have distilled that essence which is called pure education. This, it is suggested, represents the knowledge and experiences which every developing human should have, and that these are eternal, unrelated to environment or society, and untrammelled by the shadow of a later need to earn a living. Indeed, the extreme expression of this viewpoint comes close to arguing that the more useful the knowledge and experience, the less reputable they must be. Such a curriculum exists only in people's imaginations. It does not exist in reality. It is not available to be defended.

Schooling in medieval England was determined by the needs of the church and the demand for clerks and scribes. The study of the classics from the sixteenth to the twentieth centuries was based on the belief that such a curriculum produced better statesmen, administrators, colonial governors and army and naval officers. It was not based on the desire of Elizabeth I, Disraeli or even less the man in the twentieth century street that young people should appreciate the style of

Cicero, the humour of Catullus or the historical writings of Tacitus, even though many have. In recent years, it served the specific purpose of gaining admission to Oxford and Cambridge Universities. Once this requirement was abolished, the decline of classical studies occurred rapidly because their vocational prop had been removed and no-one had worked out a justification for their inclusion in the curriculum on other grounds. The decline in Latin should not be attributed to the advance of state comprehensive schools, for private schools are also rapidly dropping the subject, as is clear from *Curriculum Census 1984*. Similarly the prominence of French in the curriculum is attributable from the eighteenth century largely to its function as the language of European diplomacy—an outdated vocational reason for almost all children aged 11-14 to spend about one tenth of their schooling trying to obtain proficiency in it.

These arguments are not an attack on the worth of medieval, classical or French studies, but they do illustrate our inability to consider the curriculum *de novo* and our acceptance of vocational criteria for including elements in the curriculum provided that these criteria are out-dated, no longer relevant and unacknowledged.

All major advances in educational provision have followed changes in the nation's industrial and commercial needs:

- 1870
 - the foundation of the first state schools coincided with the ends of a period of great prosperity, the beginning of the challenge by Germany and the USA to our industrial supremacy, and the realisation that industrialisation required a literate work force.
- 1902
 - the Balfour Act followed humiliation in the Boer Wars, the belief that this was linked to technical decline, and a need to compete more successfully with Germany.

- 1944 - Butler's Act was related to the need for post-war industrial regeneration, led to the opening of higher levels of secondary education to non-fee payers and introduced grants for university under-graduates.
- 1960s - the comprehensive re-organisation of secondary education occurred at a time of labour shortages.
- 1980s - large-scale provision for vocational education (whether in schools and colleges or, through YTS, for those who have left school) is a response to the collapse of our traditional manufacturing industries and our failure to compete with more technologically and commercially advance nations.

Whatever the controversies caused by each of the first three developments, they all improved the general standard of education and widened opportunities. Reforms in the 1980s are intended to do the same and because they are taking place within the comprehensive school and are intended to change the curriculum of all pupils, they can be carried forward without the divisiveness of the earlier measures. The aim of a better and more broadly educated school leaver is one which all teachers can embrace.

The sadness of the stance taken by those who think that they are defending education against the inroads of vocational training is that they understand neither. The irony is that what they are defending is the out-dated vocationally-determined curriculum of yesterday. Education has always reflected the social and economic needs of the country or of a particular arrangement of society. The reform to promote overt technical and vocational studies for all pupils is both a response to the country's commercial needs and an enhancement of the comprehensive school curriculum.

Industrial upheaval and the management of educational reform

Britain is currently in the throes of industrial upheaval. Reform of the curriculum to embrace technical and vocational elements, at the behest of government, is education's contribution to the management of complex industrial change. It is one part of the picture. Others are:

- (a) Youth Training Scheme, for those who have left school at the age of 16 when compulsory school ends, has a 1984-5 budget of \$875m;
- (b) Certificate of Pre-Vocational Education, which has developed from the long-standing concept of a one-year course leading to a public examination of general education at the age of 17 into one of pre-vocational studies;
- (c) Promotion of micro-computer applications and training for them by the first appointment of a Minister for Information Technology, the establishment of ITECs throughout the country, the Micro-electronics in Education programme (MEP), and Department of Trade and Industry (DTI) schemes to subsidise the acquisition by schools and colleges of micro-computers and allied equipment;
- (d) British Schools Technology programme, organised by the DTI in consultation with the Manpower Services Commission (MSC) and the Department of Education and Science (DES), to promote technology as a school subject, with a three-year budget of \$2.5m;
- (e) Open Tech Programme which aims to provide opportunities for adults to re-train and acquire skills at technician and supervisory management levels, with a 1984-5 budget of \$15.3m;
- (f) College Employers Link Project (CELP) started in eight local authorities as to study relations between further education and employers, in order to improve the supply

of adaptable highly-skilled young workers;

- (g) Government White Paper, *Training for jobs* to increase government control of courses in non-advanced further education.

The main impetus for reform of the curriculum in schools has come from the Technical and Vocational Education Initiative, announced by the Prime Minister in November 1982 and started in 14 local authorities in September 1983. In less than a year the decision was taken to extend the scheme, and in 1987 the extension of TVEI to all secondary schools began. It is run by the Manpower Services Commission for which the Secretary of State for Employment is responsible, with the co-operation and support of the Secretary of State for Education.

TVEI differs from the other initiatives in four respects it:

- (a) covers the age range 14-18, bridging the divide of 16+ public examinations and of compulsory and voluntary education;
- (b) changes the mainstream school curriculum by;
 - (i) inserting new courses and skills;
 - (ii) encouraging a coherent approach to education-industry relations, work experience, visits to industry commerce teacher secondments to industry commerce, but particularly co-operative planning of courses;
 - (iii) changing teaching styles and learning methods.
- (c) is still largely controlled and led by educationists since it is based not only on national criteria approved by the Manpower Service Commission's National Steering Group which is representative of all interested contributors, but on a very wide variety of local responses to those criteria. The ground-rules are national but the planning within them is local. The national-local agreement is sealed in contracts between MSC and local education authorities. All projects have to offer guidance

to other parts of the country on how the curricular changes can be implemented elsewhere. They are pilots, not experiments.

- (d) is a development of existing trends in the schools themselves. Its chief contribution is not novelty, but coherence and impetus.

Unemployment and changing patterns of employment

For more than two years the U.K. has had more than three million people registered as unemployed. The national figure masks regional variations (*e.g.*, 15.3% in the North West, 15.15% in Wales, 17.5% in the North), local variations in otherwise relatively-favoured areas.

The overall figure also 'masks' the high proportion of young people in the total.

The problem of youth unemployment is massive and international. Britain has one of the highest totals in Europe, although the proportion of under-25s unemployed is similar to most other countries.

The figures for 16-year-olds in 1983-4 show how recent measures have reduced the number of school-leavers registered as unemployed to 14%. Whilst the number in employment is only 21%.

Britain in the 1980s is not only suffering from unemployment. It is also experiencing major changes in the pattern of employment. The microchip, robots and automation create new jobs requiring different skills from those taught at present. The major job losses are amongst manual workers at both operative and craftsmen's level.

Notes on Fig 1.3 (all figures still in thousands). The interim figures between the two dates show distinct trends, up or down, with only minor discrepancies, except for;

- (i) electrical engineering, office equipment and electrical instruments;

- (ii) hotel and catering, which peaked at 1947 in September 1979, fell to 1814 in December 1982 and have increased to 1841 since then;
- (iv) education which peaked at 160 in March 1980, and has kept within a range of 1565 at the March calculation each year between 1981 and 1984;
- (v) the number of self-employed, which fell steadily from its peak in 1971 to a trough of 1903 in 1978-9 and has risen consistently since.

Clear trends are evident. All losses are in production, construction and manufacturing. All gains are in service industries, such as wholesaling, retailing, hotels, catering, banking, finance and insurance. Despite a strong commitment by government to reducing public employment and the achievement by December 1982 of a reduction in public administration of 133000 jobs, the number subsequently rose by 27000. Other major sources of public employment, education and health, have seen increases in their number of employees.

Although the number of people who are self-employed has grown by 292000 in the period and all the increase has occurred since the present government, committed to such growth, came into office, there had previously been a steady increase from 1966 until June 1971, the years of Harold Wilson's government. A detailed study suggests a rough correlation between the figures for growth in unemployment and self-employment and that when people lose their jobs a small proportion of them become self-employed. We should hesitate to see evidence in the figures for pinning too much hope on an increase in self-employed entrepreneurs as the solution of the problem, and should bear this in mind when considering the curriculum.

The trends in levels of education and skills required

It is also evident that it is the unskilled and low-skilled jobs which are disappearing, and posts which require a more

highly educated applicant which are increasing in number.

One of the education service's responsibilities is to produce students with the basic skills which industry and commerce can develop. Schools cannot train workers. The match between what schools can do and the nation's future manpower needs, which are difficult to forecast, cannot be precise. The data in for example, is extracted from information already subject to modification, because it was based on assumptions which by the end of 1984 were considered to be optimistic. There is, however, a need to respond to major changes in the patterns of employment.

Decline in manufacturing industry apprenticeships

The early 1980s have seen a rapid decline in the number of apprenticeships. These figures are for all manufacturing industry except ship-building;

Both a decline in demand for traditional manufacturing skills and a revolution in training are revealed by the figures. Schools can no longer expect their leavers, with either outdated skills (of little use to industry or to the individual) or a wholly theoretical education, to find placements.

Britain had by far the lowest percentage of young people in full-time education or training. A comparison of Britain with the USA and Japan is equally unfavourable to Britain. The current reform is concerned with increasing the number of young people who continue their education beyond 16. It is promoting a *de facto* raising of the school/college/training leaving age. It cannot do that without changing the nature of what is taught. In the USA a 'drop-out' is someone who leaves full-time education below the age of 18. That concept is being promoted in Britain.

Space and status for technology

Technical studies had no place in the selective grammar, a lowly place in the secondary modern school, and have been struggling for space in the comprehensive school. Their low status has not been the fault of its specialist supporters. The

achievements of adviser, teachers, industrialists and the National Centre for School Technology at Trent Polytechnic are all the more remarkable when viewed against the conditions in which they have been made. The force opposing them has been institutional.

The history of secondary education from the Hadow Report in 1927 to the comprehensive of the 1960s and 1970s was dominated by arguments between those who believed that quality could be achieved only by a minority and those who were concerned with the universality of education. Technical education did not find its place in that controversy. It flowered briefly in 1944 when the tri-partite system of grammar, technical and modern schools was formalised but that arrangement represented defeat for the technical education spokesmen in the planning of the 1944 Act. They did not make up their minds which way in the argument to go and, apart from creating a few short-lived bi-lateral grammar-technical schools, they settled for the second level of ability. Technical colleges were set up after the war, usually for those who had failed to gain admission to the grammar school. Technical education was thus equated with the second best in a system founded on selection. It could not survive. In the words of Professor Judges, when describing the state of the tri-partite system in 1953, '...one of the thing's three legs is frequently under-developed or atrophied and ...it is only in men's imaginations that the true triplex formation, with a real place for organic development on the technical side, is to be found.'

Technical education fared no better in the comprehensive reform of the 1960s and 1970s. These have been aptly described by Professor Lister as 'reforms of assess'. It was very rare for a whole area to become comprehensive at one time. In most places comprehensive schools were founded in competition with remaining grammar schools. This was particularly true in the London Country Council area, which was one of the pioneering authorities. It was possible in those years to visit an LCC comprehensive school in which many

aspects of the current vocational education movement were being strongly promoted. Forest Hill School was one. But the public were convinced of the need for change, not by pioneering curricula, but by the ability of comprehensive schools to do for the ablest child what the grammar school could do. The argument was not won by convincing them that a comprehensive curriculum was better, but by the success of pupils of comprehensive schools such as Tulse Hill in winning Oxbridge classics scholarships. Technical education had lost again.

When institutional change and curriculum reform are divorced nonsenses are likely to occur. The irony is that high quality technical studies, scuppered in the division between grammar and modern schools, sank almost without trace in the comprehensive school. Those who successfully refloated the wreckage and have brought technological studies in schools to their present level have had to face extraordinary difficulties. Without their long haul and success the present curricular reform would have had to be promoted on a much weaker foundation.

It has been the politics of the comprehensive reform which has debased the role of technological, business and vocational studies, and has ensured that a curriculum, established largely for nineteenth-century aristocrats, has passed almost unscathed through the grammar to the comprehensive school. At each stage the new institution has had to justify itself in comparison, and often in direct competition with the old. The results have been major institutional changes and a great widening of opportunities, but only very slow change in the range of what is learned. Thus it is that towards the end of the twentieth century only a tiny minority of young people in Britain undertake any systematic study of technology at any time during the period of compulsory schooling.

Current moves have to break this mould and establish technological as well as other vocational studies as essential elements in the curriculum of all children, covering the full

range of ability. Without the impetus of government-supported change, we shall continue to direct the ablest away from technological studies and in the direction of what we mistakenly think of as untainted, pure education. The reform aims to enhance the curriculum by including elements which are essential but have not hitherto been admitted.

Modernising the curriculum

Inertia, despite evidence of the need for change in the curriculum, is attributable to several factors:

- (a) the effect upon the curriculum of the struggles between those favouring selective schools and those favouring comprehensive, as outlined above has been perhaps the biggest obstacle to change;
- (b) training of teachers as single-subject specialist, without an overall view of the curriculum and with grossly inadequate opportunities for re-training;
- (c) inadequate resources for studies, some of which are intrinsically expensive in both capital and revenue terms;
- (d) parental choice of secondary school, whatever its other merits, can require the innovatory school to take great risks, especially if the most prestigious school in the area is also the most traditional in its view of the curriculum.

We may reach some conclusions about the view which schools take of various subjects and the reasons why they attach importance to them, by noting their relative positions. We may also question some assumptions.

If physics an essential part of a rounded education. Why is it that almost three times as many girls studied biology as took physics and that almost as many studied cookery?. This can be seen, of course, as the result of sex-stereotyping and prejudice, but it also calls into question the integrity of the claim that a science course which is specifically physics, as distinct from one which is broader, is an essential element in the curriculum. Almost a quarter of boys who take

mathematics do not take physics and two thirds of girls who take mathematics do not take it. In many schools there is a vague feeling that all pupils ought to take a physical science, and that either physics or chemistry will do.

There is evidence to suggest that French owes its high place to the notion that one needs an O-level in modern languages for future applications rather than for its intrinsic worth. It certainly drops down the list in post-16 studies at GCE A level, falling behind History. Arts, Economics, Chemistry and Geography for the majority of boys and girls.

There are some subjects which have not found a traditional justification for their place in the curriculum but have nonetheless successfully claimed space in the timetable, for example sociology. British constitution and geology. The category of sociology in fact covers some broader studies more commonly thought of as social studies, but, that apart, these 'new studies' have two noteworthy aspects. They all stem from the enthusiasm of teachers within the schools who have been trained in disciplines to which the subjects are allied, *i.e.*, history, economics and geography, and in this sense represent specialisation alongside the more fundamental study. They are all quite cheap to introduce, not requiring markedly different accommodation or expensive equipment. They are not evidence of our ability to bring in new studies and new skills when those two conditions are not to hand. Whilst they have worth in themselves, it is difficult to see their role as specialised studies in the context of a broad, liberal curriculum. They look more like the last throes of a movement which had as its highest goals an increase in the number of options and ever-greater specialisation.

The poor place of music, despite the obvious importance of all kinds of music in our daily lives and of the exciting practical and successful new approaches promoted by Professor Painter and other, seems evidence of our failure to support it in an adequate curriculum framework. Art, which is on a par with history, chemistry and French in popularity, is justified often on the vocational basis that it is useful for many

careers and essential for some. Music has no such justification, except for a very small number of pupils. This suggests that criteria based upon cultural needs and eternal values are not enough to gain a place in the traditional curriculum. We may suspect that literature would not be strong if it were not tied inextricably, in the persons of its teachers, to English language. The promotion of technical and vocational studies is not an attack on music and literature. By more honestly identifying the reasons for the inclusion of studies in the curriculum. It may strengthen the position of these subjects.

The low position of economics is the more serious because the start of optional courses at 14 is, in most cases, the first opportunity which pupils will have had to study the subject. It illustrates two points; the difficulty of getting new studies into the 14-16 curriculum if there is not a member of staff already on the premises to promote and foster it, and the straitjacket of the single-subject, option-based curriculum which allows subjects in only if they occupy and can justify occupying about half a day a week for two years. Thus economics has to compete, perhaps, with languages, humanities or a second science, as an alternative study. It is not easy to see the rationale of this. The Economics Association Project report, based on a survey of one in five of all secondary schools in England and Wales, showed that very few students have any kind of study in economics in the common curriculum 11-13 and that two thirds have none either in the core or options of the 14-16 curriculum. In 1977 HMI asked, 'Can we leave this task [teaching economics] to mere chance, probably depriving vast numbers of people of an understanding of the very processes and issues which affect their lives as citizens and workers?' In 1984 the fifth European conference on economics education at Manchester University called for economics to be brought to the centre of the curriculum. The fact that the call is still necessary is evidence of our curricular inertia.

Numbers taking subjects, carelessly categorized as craft, are illuminating clearly cookery cannot claim to be in the

curriculum for vocational reasons or academic reasons. It would seem that a vague notion of preparing girls for housewifery is the actual justification, at least in the eyes of the choosers.

Those subjects which are most closely related to engineering and construction-technical drawing, woodwork, metalwork and design and technology - show support which does not accord either with the needs of industry or with the thinking of advisers and teachers of the subject. Technical drawing has for years been academically the most respectable of these subjects and has promoted disciplined study and accuracy, but most current thinking does not see a major role for it as a separate subject at examination level. Yet in 1982, the year when TVEI was announced, four times as many candidates were presented for O level examinations in technical drawing as were presented for design and technology. The numbers for metalwork and woodwork were similar to those for design and technology. Perhaps the justification for woodwork should change from that of relevance to the construction industry to one of contributing to the aesthetic, self-help and confidence building elements in the curriculum. Wood is the material which we can all work in our homes without expensive plant.

As with these subjects, the current emphasis in most commercial studies courses is vocationally out-of-date. The difference is that developments have been under way for some time in the CDT field and the current reforms are a means of rapidly pushing forward along a route which already charted. This is not the case with commercial studies.

Computer studies is the one subject which has arrived suddenly in the curriculum, but it is the one swallow which does not make a summer. It is not evidence of our ability to adjust the curriculum quickly. Most syllabuses are condemned by those working in industry and commerce as out-of-date. There is a policy debate going on about whether the subject should be examined at all at 16+, and a widely-held view that it should be a basic element in learning skills courses

for all pupils; the distinction between computer studies, which may be for the minority, and information handling for all is often muddled. Many schools are conscious of the need to have many micro-computers, but less clear about what use to make of them and how to integrate the facility into their learning schemes. The arrival of computing in schools is unique experience in curriculum change. It shows how schools, largely caught unawares, have responded in an incoherent and ill-prepared way to the enormous up-surge of public interest in and possession of home micros. The comment from many teachers about their pupils knowing more than them is not a joke. The generalisations under-value the work of those in the Micro-electronics Education Programme and those who have taken the initiative locally, as at Milton Keynes, to develop appropriate courses in association with business and information technology centres. My general point—that education has had to respond to outside pressure rather than lead the admission of the micro into the school—remains true. A diverting account of one school's being led by parents is given in Hounsell and Martin's *Developing Information Skills in Secondary Schools*, British Library. The sequence of events was: lukewarm interest from head, meeting of heads of department with only the mathematics department interested, parental pressure to extend the development of information skills across the curriculum. The arrival of the micro is an interesting example of public pressure on the schools, not an example of our ability to lead change in the curriculum.

If we look beyond the subject labels and have regard to content, the picture is still more alarming. A paper issued by the DTI's Industry/Education Unit, *Improving the significance of GCEE O level and CSE examination papers for the requirements of modern society* concluded that, of 4100 questions set in physics, chemistry and mathematics examination in 1981-2, only 4% had any relevance to the technology of the last fifteen years, and the proportion relevant to technology which has had an established place over a longer period averaged less than 5%. Most questions were based solely on the recall of

knowledge. Almost half of those questions in chemistry which did involve industrial applications relied on recall and were tests of memory not understanding. Pupils still do wrought-iron work in school metalwork shops. when they have never seen a computer numerically-controlled machine. They type on manual machines, never having had access to electronic typewriters, word-processors or micro-computers. The theory of electricity is widely taught but an understanding of electronics is seldom given, whilst practical experience of using components and making circuits is quite rare. Schools need to up-date the skills which they teach.

What is required of the schools?

Plans for reform of the curriculum need to be based on these factors:

- (a) We are in the midst of industrial change as great as that of the early nineteenth century; the management of change on such a scale is highly complex, and an uncharacteristically rapid response from the education service is needed. Curriculum reform has not happened in the past without strong national and local leadership. It is happening now because the leadership is there.
- (b) Business and industry require a better-educated workforce with the ability to adapt its understanding and skills.
- (c) There will be significant increase in employment in the human services, which require a well-educated workforce.
- (d) Britain has made significantly worse provision for education and training in the period after compulsory schooling than most countries in the European Economic Community, with the lowest combined percentage in the late 1970s of young people of post-compulsory age in any form of full-time general or vocational education or apprenticeship.
- (e) Schools must take note of those types of employment which are declining and those which are expanding,

recognise the long-term trends which point in certain directions ensure that basic skills with a future are included in the curriculum and design the curriculum with facility of change as a criterion.

- (f) Schools must provide courses for all pupils which offer a continuum of education and training to 18, and face the challenges to existing curriculum models and teaching methods which this makes.
- (g) There is a realisation that the 11-16 curriculum for most children and 16-18 curriculum for the ablest students have been dominated by the abstract and theoretical, with an under-valuation of practical experience and useful knowledge.
- (h) The justification for the inclusion of subjects in the curriculum is not always as pure as we like to think, and is often out-of-date; the balance of subjects remains largely unaltered because of the difficulty of change, not the absence of a need for change.
- (i) There is little evidence to suggest that the new skills or aspects of study are admitted to the curriculum unless there are teachers already on the staff who wish to promote them, or unless, as in the unique case of computing, there is such a surge of public interest that schools have to respond to demand.
- (j) Technological studies have not been accorded adequate status and time in the curriculum; and economic and industrial studies have not been followed at all by the majority of young people during the years of formal education.
- (k) Changes in CDT at O level show how slow is the process of change, especially when it involves taking up the time of ablest pupils, even through the promotion of technology nationally and through local authority advisers probably more supportive of change than is the case in any other subject the absence of the proper curricular framework may be the problem.

- (l) Both the education service and industry appreciate that the gulf which has existed between them is incompatible with the need for young people at some stage to move from one to the other.
- (m) Those aspects of detailed planning, which must follow the setting of national or local authority frameworks, need to be done by groups of schools; few schools are likely to have the resources or courage to tread the path alone.
- (n) There may be a contradiction between nationally-led curriculum change and the promotion of increasing parental control over school, unless parents are convinced that the reforms, seen to be nationally essential, are also in the immediate interests of their children.
- (o) Business, which wants change, must make it clear that it will welcome the products of change.
- (p) Curriculum reform is not cheap. If pilot projects are intended partly to cost the extension of the reform to all schools, there needs to be evidence before long that extra resources will be available from the government.
- (q) Changes in curriculum models need to be accompanied by changes in the teaching styles and examinations and teachers need enormously increased opportunities for re-training.

Approaches, Definitions and Criteria

Apart from these common elements here are different definitions for the vocational elements in the curriculum. Although a subtle approach can combine some of the advantages of all and few of the disadvantages, curriculum planners have to make an initial choice about which route to follow.

1. One occupational family

Definition: the vocational elements in the curriculum are related to one of the 11 occupational families:

- (a) administrative, clerical and office services;
- (b) agriculture, horticulture, forestry and fisheries;
- (c) craft and design;
- (d) installation, maintenance and repair;
- (e) technical and scientific;
- (f) processing;
- (g) food preparation and service;
- (h) personal service and sales;
- (i) community and health services;
- (j) transport services.

Advantages

- (i) good for motivation of students who know what they wish to do;
- (ii) can be provided on a scale related to local/national employment needs;
- (iii) coherent and simple for timetabling and staff deployment.

Disadvantages:

- (i) prescriptive-the school arranges, the students accept;
- (ii) requires a major and early vocational decision by students, which most cannot take and most should not take;
- (iii) incapable, because of heavy commitment of resources to single purposes, of responding with sufficient speed to changes in local employment patterns in an age of unexpected plant closures;
- (iv) no scope for changes of minds by students;
- (v) difficult to involve the ablest students.

Tasters or carousels

Definition: several (usually at least three) of the eleven occupational families are sampled in rotation.

Advantages:

- (i) students have substantial experience of several occupational families;
- (ii) the disadvantages of following courses based on one occupational family are reduced in scale;
- (iii) a major contribution to career choice, much greater than is possible by any amount of careers guidance its greatest advantage.

Disadvantages:

- (i) as a proportion of time devoted to studies related to

specific occupations, most of the disadvantages of 1 remain, albeit to a lesser degree;

- (ii) there are doubts whether several of the occupational families span the full ability range—and a consequent need to relate occupational families to students' assessed abilities;
- (iii) problem of whether the ablest students will be willing to forego 20-30% of the curriculum for courses which may be difficult to examine at 'O' level/CSE.

Skill-based single subjects

Definition: skills chosen for relevance to employment (e.g., information technology, electronics, manufacturing technology, industrial studies) but delivered within the format of normal school options, that is each taking about 10% of a week, lasting for two years and capable of being validated in a subject-based public examination.

Advantages:

- (i) can be absorbed into the curriculum without stratification of the age group by ability;
- (ii) not specific to occupational families, i.e., 2 or 3 'subjects' can cross several occupational families and not limit eventual career choice.

Disadvantages:

- (i) danger of the vocational emphasis being lost or not appreciated by the students, because it is not explicit;
- (ii) if the vocational relevance is not appreciated, the advantages of student motivation will be reduced.

4. Skill-based modules

Definition: as 3, but with the skills taught in short courses (perhaps one term) with regular teacher counselling and student choice of modules.

Advantages:

- (i) student commitment is to a short course, with regular opportunities for re-direction;
- (ii) student can build on success and forget failure, by continuing with the second stage of some courses but dropping others;
- (iii) student can repeat a course;
- (iv) quickly adaptable - new modules can be introduced at short notice;
- (v) all the advantages of the 'credit' system; that is, short-term goals, a prompt assessment of attainment, the opportunity to build up success in stages;
- (vi) greater student responsibility for his/her own studies.

Disadvantages:

- (i) puts a heavy responsibility on the counsellor, who needs to be well-trained and experienced;
- (ii) could be abused by the dilettante student conscious of the negotiating rights available to him/her;
- (iii) there may be difficulties in convincing some examination boards that the modular arrangement is compatible with academic rigour.

Projects

Definition: several projects, lasting perhaps half or a whole term, are planned by teachers with industrialists, in order to encompass chosen skills and experiences.

Advantages:

- (i) all the advantages of project work (motivation sustained by the interest of the project, group work, greater use of students' initiative and imagination, greater apparent student control, satisfaction of producing something in a short period);
- (ii) experiential learning is promoted to the fore, and skills

are acquired because they are seen by students to be needed in order to achieve an objective.

Disadvantages:

(i) difficulty of validating such work by a public examination system which is acceptable to students at all levels of ability;

(ii) the initial acquisition of skills may be less rigorous, because it is perceived to be incidental to the main objective; the skills may not be practiced regularly over a long period and students may not retain them or gain confidence in them;

(iii) expensive in resources, requiring the availability of a wide range of facilities and of teachers with a variety of skills, and also requiring much teacher/industrialist time in planning projects;

(iv) difficulty of matching the ideal of student control (with its concomitant of uncharted routes to the set target) with the need to ensure that certain skills are acquired or experiences.

Permeation

Definition: the objectives of vocational education are not achieved by discrete elements in a student's programme, but by an emphasis on the vocational relevance of all studies and a rigorous promotion of the common elements above.

Advantages:

- (i) vocational education becomes a part of the powerful 'hidden curriculum', that is, it is implicit in everything the school does;
- (ii) a much greater emphasis on the process of learning.

Disadvantages:

- (i) very difficult to achieve because teacher/school attitudes are difficult to change unless necessitated by changes in subject matter or teaching method;

- (ii) the vocational relevance of some subjects is slight because their justification for inclusion in the curriculum is not vocational. For example, students do not study history in order to become archaeologists, statesmen or civil servants, and, if the school does embrace whole-heartedly and pervasively the importance of vocational relevance to all of its activities, the result could be the denigration of some studies;
- (iii) could be the refuge of the humbug who wishes to pretend that the curriculum is changing when it is not.

Preparing and approving new courses: a checklist

When major new elements are admitted to the secondary school curriculum, they need to be assessed by two sets of criteria. We needed to judge whether the new studies will satisfy the objectives of the reform on which we are embarked. We also need to ensure that the new studies are accommodated in a changed curriculum which is balanced and co-ordinated. Below is a checklist which may be used by group planning the new technical and vocational elements to assess whether these will meet the objectives of the reform.

1. Are the skills which are to be learnt modern and needed by business?
2. Are they to be presented in a sound context of theory?
3. Will there be planned opportunities to apply skills/knowledge to solve problems?
4. Are these problems and applications modern and of the kind likely to be met in work or adult life?
5. Will it be possible to forge links with employers, to include:
 - (a) discussions about content of courses;
 - (b) joint development of course material;
 - (c) employer's involvement in assessment;

- (d) work experience
- (e) visits and speakers?
- 6. Is the development of the course best done on the basis of
 - (a) one school;
 - (b) a group of schools;
 - (c) a local authority area?
- 7. Is the course, or elements in it, available to:
 - (a) the full ability range;
 - (b) both boys and girls?
- 8. Has it been decided on the structure of the studies:
 - (a) modular (that is, short course, with student choice);
 - (b) unit (standard two-year course, but short units of study with end-of-unit assessment);
 - (c) single-subject?
- 9. Has the possible influence on the lower school curriculum been considered?
- 10. Is it desirable/ possible to draw up admission criteria (for example, essential background knowledge or skills)?
- 11. Has a means of managing the new courses been agreed:
 - (a) one person to have administrative responsibility;
 - (b) a planning group?
- 12. Have arrangements been made for guidance staff to be fully briefed on the nature of the course:
 - (a) a formal presentation by work planners;
 - (b) a written description;
 - (c) both?
- 13. How will new courses be presented to parents and students:

- (a) by a direct special presentation;
 - (b) by inclusion in school's normal 4-5th year course booklet?
14. Is counselling during the course necessary?
15. If yes, has the amount of teacher/careers officer time been assessed and allocated?
16. How is student progress to be assessed:
- (a) continuously (if so, what format);
 - (b) end-of-term;
 - (c) course work;
 - (d) final examination?
17. Is a record of achievement to be issued?
18. If yes, have course assessment methods been related to it?
19. What formal public validation will be sought:
- (a) GCSE;
 - (b) B/TEC, GGLI, RSA, CPVE, etc;
 - (c) local;
 - (d) combination in order to embrace mixed-ability groups?
20. How will the course relate to post-16 opportunities:
- (a) direct to employment;
 - (b) B/TEC;
 - (c) City & Guilds of London Institute, RSA;
 - (d) London Chamber of Commerce;
 - (e) Institute of Linguists, etc;
 - (f) CPVE;
 - (g) Youth Training Scheme?

21. Have the resource needs of the course been assessed in terms of:
 - (a) equipment;
 - (b) staffing;
 - (c) consumables;
 - (d) subsidies for visits;
 - (e) residential experiences?
22. Can any of these be obtained at low or no cost;
 - (a) shared use of school facilities;
 - (b) use of further education resources;
 - (c) coaches, equipped for the course, to visit several schools;
 - (d) use of employer facilities/training schools;
 - (e) equipment from employers?
23. Have the in-service training needs of participating staff been agreed and, if necessary, arrangements for training made?
24. Have arrangements been made to monitor the course, *i.e.*, assess the achievement of objectives?

This is a demanding list of decisions to be taken. Some criteria are more readily met than others. Failure to satisfy some of them should not be a reason for not proceeding. Destructive critics might be asked to assess their existing courses by the same standards.

Integrating new studies into a reformed curriculum

Technical and vocational studies have been denied space and status in the secondary curriculum. Now, with the backing of government and the enthusiastic response of local education authorities and teachers, they are forcing their way in. TVEI is a curricular thug, forcing other subjects to acknowledge its

demands. But the week cannot be lengthened and the consequences for the whole curriculum have to be faced.

No solution is possible within a curriculum arrangement based on a small core of English, Mathematics, Physical Education, with a free choice of five or six other subjects from a list of perhaps twenty. If the twenty is increased, say to 25 or 30 by the addition of technical and vocational subjects, we shall have put further strains on an indefensible option system without having secured every young person's right to have these important elements included in their studies.

There is widespread agreement in Britain that we should be moving away from options and looking towards a common curriculum to the age of 16, or at least a major increase in core studies and reduction in options. To succeed, any solution must be based on the avoidance of student stratification. Plans which give vocational studies to 14-16 year olds, on the basis of selecting some pupils at 14 for courses which will not provide routes to high level jobs or admission to higher education, will undermine a major objective of the reform — the need for all students, including the ablest, to have such studies.

Three main routes towards a common curriculum have been charted in recent years, and it will be useful to consider how technical and vocational studies can be embraced by them.

HMI red books

Between 1977 and 1983 Her Majesty's Inspectorate, five local authorities, 41 schools and the advisers from these local authorities worked together to examine their thinking about the curriculum. The three *Red Books* which resulted ought to be studied by any school or group of schools attempting to integrate technical and vocational studies into their revised curriculum. My references to them are selective and must, for reasons of space, ignore many other aspects of their enquiry. The study started in 1978 by HMI postulating eight areas of experience:

1. aesthetic and creative;
2. ethical;
3. linguistic;
4. mathematical;
5. physical;
6. scientific;
7. social and political;
8. spiritual.

These were offered as one way of encouraging coherence and balance in the overall curriculum of individual pupils'. It will be noted that technical and vocational areas of experience are not included, although they may be considered to be covered by 1, 4, 6 or 7.

Thirty-five schools provided the information in the tables below and the 1981 review found significant variations between the schools.

Percentage of time given to English and Mathematics

| | <i>Average</i> | <i>Highest</i> | <i>Lowest</i> |
|-------------|----------------|----------------|---------------|
| English | 14.9 | 20 | 12 |
| Mathematics | 14 | 20 | 10 |

Number of option blocks offered (=size of non-common curriculum)

Number of schools 3 1 2 17 11 1

Number of option blocks 2 3 4 5 6 7

These two tables indicate a wide variation of practice, but two distinct tendencies:

1. Almost a third of the week (29%) on average was devoted to English and mathematics.
2. The core was very small in most schools, which allowed a choice of five or six subjects, with some constraints.

The 1983 final report of the partnership noted the difficulty of avoiding the alignment of the eight areas of experience with existing subjects and the ease with which teachers can justify their subjects under a number of the areas of experience. They also, however, rejected the notion of aligning option blocks with the eight areas of experience, thus:

Many schools attempt to achieve a balanced curriculum for their pupils in the fourth and fifth years by ensuring that among their options there are those which offer, for example, aesthetic/creative and scientific experiences. To do this, they identify, sometimes under faculty headings such as humanities or communications, groups of subjects in which each subject is thought to offer a similar kind of learning experience. The enquiry suggests that this assumption is unwarranted. For example, it cannot be assumed that geography, history and religious education offer similar learning experiences. It is necessary to examine fully the similarity and the differences of the learning experience in practice offered to and received by pupils. Similarly in music and art, two subjects which are commonly linked within the 'creative' studies cluster, teachers should ascertain whether each does in fact provide similar experiences for pupils. The ways in which the scientific experiences involved in a study of physics, chemistry and biology at this level complement and contrast with each other, also need careful consideration. The working assumption that for the purposes of achieving 'balance' in the curriculum, subjects within identified clusters may safely be treated as interchangeable is no longer tenable. This view is supported by the discrepancies which some schools found when they monitored the learning experiences which pupils actually received.

This conclusion is important and, if 'experience' is used in the sense of learning as monitored in the classroom, entirely convincing. However, it does provoke four comments:

- 1 It arises from the attempt to assess experience apart from content and 'subjects', but there is now no reason to suppose that the national system of public examinations

at 16+ will allow us that freedom;

2. Music and art do provide similar experiences, in the sense that students use knowledge, skill and technique, use their imaginations, are creative and have aesthetic experiences. The medium through which they do this is, of course, different. Under existing option arrangements the choice might not be between art, music, dance or drama, but between art and French or music and chemistry. There is again from ensuring that every child has some aesthetic and creative experience by having an option block solely for the purpose;
3. Physics, biology and chemistry do offer different experiences and a random choice between them is a nonsense. Much work has been done to eliminate the need for this choice. We need to talk of integrated science only because science has become specialized, but there is such a thing as science. In Hertfordshire, for example, the advisers and science teachers have developed a syllabus which allows science to be studied as a single subject for a 16+ examination for those unlikely to specialise afterwards in physics, chemistry and biology, with a second supplementary course for those who are likely to do so. This allows all students to follow a common science syllabus, supplemented for the minority, and reduces the space demanded by science from three to two or one options;
4. The humanities subjects-geography, history and religious education—are a difficulty, for there is little similarity of learning experience, and efforts to integrate them usually result in either an abandonment of systematic study and content in favour of a topic or method approach, or a purely administrative linkage for examination purposes with options, within one syllabus, which tend to be history or geography-based. There seems to be no obvious way forward.

The most important conclusion of the enquiry for our

purposes is that 70-80% of the time available between 11 and 16 years of age should be devoted to the entitlement curriculum and the remaining time allocated for optional components.

Dr David Hargreaves was Reader in Education at Oxford, led a Committee on the Curriculum and Organisation of Secondary Schools in the Inner London Education Authority which reported within one year, and is now Chief Inspector of ILEA. It is unique in English educational history that an academic with a high reputation, having clarified his own thinking on the curriculum, should be invited to lead an enquiry into all aspects of a large education authority's schools and then be appointed its Chief Inspector and be in a position to help in the implementation of reforms which he has helped to devise. His curricular thinking is outlined in *The challenge for the comprehensive school: Culture, curriculum and community* and in *Improving secondary schools*.

In this book Hargreaves proposed that:

- 1 16+ public examinations should be abolished, in order to allow the reconstruction of the comprehensive curriculum.
- 2 11-15 year-old pupils would follow a core curriculum, taking half a pupil's time and embracing all existing school subjects and some new ones, with two central elements:
 - (a) an integrated course in community studies, not subject based although taught by subject specialists, in blocks of time lasting at least half a day and involving inter-action between community and school;
 - (b) expressive arts, crafts and sport, including conventional lessons, a critical study of the mass media, the production of plays to be performed publicly in the school and in the community, and music and art festivals.

- 3 The other half of the pupils' time to be given to options of two types:
 - (a) remedial options for pupils time to be given to options of two types:
 - (a) remedial options for pupils at all levels of ability, some formalised, others individualised;
 - (b) interest options, based perhaps on traditional subjects, but more likely to be specific and shorter topics e.g. 'the Victorian novel' rather than English literature.
- 4 Selection at 15 for A levels (three years instead of two) or for vocational courses for those who intend to leave school at 16 for work, with an emphasis in the last year at school on preparation for school-leaving.

These proposals follow a long critique of what is done in schools at present, and a discussion of culture and the community. You should note that only those conclusions which relate to the problem under consideration have been referred to here. Dr Hargreaves' book contains many thoughts besides those outlined, which are important for any study of the 14-16 curriculum.

Improving secondary schools is not, of course, the work of Dr Hargreaves alone but the combined recommendation of a very impressive enquiry into the schools of Britain's largest education authority. The thinking in his book is evident, however, although modified to acknowledge that his main premise - the abolition of 16+ public examinations - is not on offer by the government, and that, as a consequence, we have still to think in terms of subjects. The report recommends an allocation of time for core studies of 62 1/2%, which is rather lower than that recommended in the *Red Books*, and puts into the optional category subjects traditionally part of the core, e.g., physical education. It allocates 25% of time to English and mathematics - somewhat less than the schools in the *Red Book* enquiry on average. The division is:

- 1 Core subjects - English (12 1/2%), mathematics (12 1/

2%), science (10%), personal and social education and religious education (7 1/2% in all).

- 2 Constrained options—at least one aesthetic option (10%) and at least one technical option, defined as craft design and technology computer studies (10%).
- 3 Either additional periods in compulsory subjects or free options or a combination (totaling 37 1/2% of time) from classical and modern language, history, geography, economics, commercial and business studies, physical education, additional science subjects, additional aesthetic subjects, additional technical subjects, additional English and mathematics.

The features of these proposals which concern us are:

- 1 The rather narrow definition of technical as CDT/computer studies.
- 2 The low priority given to a vocational orientation of studies for fear of creating an academic/vocational divide and of creating a vocational stream for less able pupils with a severely truncated general education. The observation must be made by those promoting technical and vocational education that this divide exists at present, that the purpose of TVEI is to ensure the absorption of technical and vocational studies into the entitlement curriculum, as the *Red Books* define it, for all pupils including the ablest, and that the relationship of all aspects of study (whether traditionally academic, technical or vocational) to life in the community and as an adult should be emphasised. Elsewhere in the report it is stated, 'We are not against vocational education in school: the curriculum must have a relevance to the world of work and to pupils' future occupations and occupational aspirations. Some evidently vocational subjects, such as commercial subjects, have a justified place among or across the free options. Pupils have a right to such a vocational element in their studies during the fourth and fifth years. 'It is thus not a question of principle but of

priority. It is also worthy of note that the *Research Studies* issued after *Improving secondary schools* concluded that, 'the study has demonstrated the need for subject and courses to be such that their relevance to work, employment, qualifications for employment and generally life outside school, is patently evident to pupils.'

- 3 The writers' view that 'engaging pupils with the curriculum content, whether it is seen in terms of subject or areas of experience' is a fundamental means of combating under-achievement. The experience of TVEI is that technical and vocational courses have a high success rate in this regard.
- 4 The notion of additional studies in the options allows continuing support to be given to pupils with special needs, without the stratification which is necessary in less constrained option systems.

Department of Education and Science

The views of the Department of Education and Science, irrespective of changes in political leadership, also point in the same direction. They have been given in: *Education in Schools, a Consultative Document*

A framework for the school curriculum

The School Curriculum

The organisation and content of the 5.16 curriculum

The *Green Book* of 1977 was presented by a Labour Secretary of State. Shirley Williams, who is now President of the Social Democratic Party. It may be taken, therefore, to represent the views of at least two parties. It expressed concern that the curriculum had become overcrowded, the timetable overloaded and the essentials put at risk - a gentler way of referring to 'clutter' in the timetable. It was worried that the curriculum was not matched to life in a modern industrial society. It argued for a bigger core and national

- (h) Aesthetic subjects - either art, music or drama, with the unargued and tentative suggestion that 'art now figures more predominantly in the timetable than music or drama, and that should probably continue to be the case.
 - (i) Application of knowledge and skills, especially in mathematics and science.
 - (j) Craft, design and technology-it is only a 'possible objective' that this should be compulsory as there are not enough teachers.
- 4 'Pre-vocational studies are defined as 'technical' or 'commercial' or as a combination of both. TVEL is mentioned; it is 'hoped' that it will show ways in which technical and vocational elements can enrich the curriculum. Co-ordinated course and work experience, of the sort offered in the past to post-16 young people, are also considered capable of making 'a valuable contribution' to the curriculum of 14-16 year olds. A cautionary word about the danger of fostering narrow vocational skills is given.

Two suggestions are offered about how this quart is to be fitted into the pint pot. The main subjects can be taught in less time by 'removing clutter', and time can be found by giving pupils 'more, and better directed, homework'. These thoughts perhaps illustrate the magnitude of the problem rather than solve it.

A further reference to the Note will illustrate how, in present conditions, we have to settle for less than satisfactory solutions. Her Majesty's Inspectors have provided, with comments, examples of existing school curricula. The following three comments all apply to the same school:

1. relatively few pupils take a modern language in years 4-5;
2. the science which all pupils must take is not a balanced science course;
3. the curricular pattern has breadth and balance for all pupils.

The parameters for integrating technical and vocational elements into the curriculum.

It will be helpful to draw common threads from these three major searches for curriculum reform.

1. All favour a large common element, consisting of core subjects and constrained options:

Red Books 70-80%

Hargreaves 50% in his book, 62 1/2% in the ILEA report

DES 70-85%

2. All promote the value of practical work and the application of knowledge to problem-solving.
3. All favour or accept a measure of cross-curricular or unit studies.
4. All retain some options and see merit in limited student choice.
5. They differ fundamentally on their approach to the traditional single-subject based curriculum: *Red Books* see essential elements as experience separate from subjects or disciplines. *Hargreaves* in his book largely favours the end of subject disciplines as we currently understand them, but as a contributor to the ILEA report he accepts a subject based curriculum with the examinable elements limited to five or six subjects at any one sitting.

DES thinks almost entirely in terms of subjects, except when it is considering topics such as health and careers, or vocational studies.

We also need to acknowledge that none devotes much time to a consideration of how technical and vocational elements may be included. This may be because they were written before the need for such elements was clearly identified. In the case of the ILEA report it may be because of fears about an academic/vocational division. In the case of the DES it may be that, having argued for the inclusion of almost

all traditional subject disciplines, the task of embracing additional elements was too daunting. In considering how to include these elements, we have little guidance from the main curricular studies reviewed, although we may take their frameworks as the most likely ones within which we shall have to work.

Before we address ourselves to that problem however, we have to decide what will be the examination or assessment framework which needs to go hand in hand with the curricular framework, for there is no evidence to suggest that Britain, unlike some other countries which are at least its equal in both industrial and cultural achievement, is willing to forego the public and national certification of its youth at the age of 16.

The examination background: a further problem

Britain is currently grappling with the problem of two new and largely unrelated public assessment systems to be taken by most pupils at the age of 16.

1. General Certificate of Secondary Education (GCSE).

The key decision which sets the parameters of 14-16 curriculum reform was taken by the Secretary of State, Sir Keith Joseph, in June 1984 when he announced a single system of 16+ examining to replace the existing separate GCE O levels and CSE examinations. The etching profession was generally in favour of the merger, as a rationalisation of 16+ examining to replace the existing separate GCE O levels and CSE examinations. The teaching profession was generally in favour of the merger, as a rationalisation of 16+ examining, but there was a feeling that the long-awaited reform was not only overdue but out-dated. The case against any public examination, taken by the majority of young people at the end of compulsory schooling, is strong. Tim Brig-house, Chief Education Officer for Oxfordshire, was one of those who made an eleventh hour bid to stop Sir Keith Joseph's decision to merge the two systems and thus consolidate 16+ examining, arguing that, 'hitherto the taking of examinations at the end of

the fifth year has been a powerful and malign influence on secondary schools'. Brig-house preferred the abolition of 16+ examinations, but knew it was not a possibility and was prepared to settle for the *status quo*. Representatives of head teachers and college principal organisations argued that the 'concept of a curriculum of preparation for adult life... might reduce the dependence placed at the moment on a formal single subject examination at 16+'. The opposite view was put by members of the Standing Conference on University Entrance whose chief concern was that any changes in 16+ examining should retain syllabuses which provide a sound foundation for GCE Advanced Level and University entrance. The argument is between those who believe that the secondary school curriculum is best designed bottom-up and that this is incompatible with the need to prepare students for single-subject public examinations at 16, and those who see public examinations at 16 and 18, controlled by universities, as the best means of maintaining standards in secondary schools.

The views of employers may have been decisive. In March 1984 Sir Keith wrote to eighteen business organisations asking for their views but first queries the use by employers of examinations as a 'first sift', stating that the knowledge of parents and teachers that this was so, distorted 'the significance which should be attached to examinations' and led to the neglect of 'important skills and personal qualities'. The replies of employer were unambiguous. A Schools Council survey of opinions, which included those of almost 500 employers, showed their overwhelming support for 16+ examinations. The Engineering Employers' Federation and the Confederation of British Industry both confirmed their support for a common examining system at 16+.

With secondary school spokespersons preferring the merging of two examinations into one, with some seeing the possibility of ending such examining altogether, and the users of examination results (universities and employers) wanting the retention of public examinations, Sir Keith's decision was in fact widely applauded. 16+ single subject examinations will

ages of 14 and 18 for whom the traditional academic curriculum is unsuitable'. It is asserted in the *Consulative Document* that GCSE and CPVE can be complementary for 14-16 year olds and that a coherent framework can be worked out.

A way forward

What are we to make of this dichotomy? On the one hand we have a recently confirmed subject-based examining system, designed to cater for the majority and certainly the top 60% of the ability range and well-suited to the type of curriculum emerging from long discussions within the secondary school sphere in which both the DES and HMI have taken a lead. On the other hand we have a model which solves all of the curricular problems arising from the single-subject base, but which seems incapable of covering the main elements to which every pupil is entitled within the years of compulsory schooling. What follows is an attempt to embrace most of the objectives agreed to be desirable within a comprehensive school, with some differentiation by ability but without banding across year groups, using the GCSE single-subject mode, but including some cross-curricular elements. It is not, of course, a model. Even if accepted as a solution to the major curricular problems which we have been considering, it is not capable of being adopted in any particular school. It is obviously not a putative timetable, but a diagrammatic method of presenting curricular elements. It needs to be read with the notes which follow it. The bottom lines relate the subjects or elements of study to the three major curriculum development reviews which have been analysed earlier.

Notes on the curricular framework

- (a) The allocation of time for English and Mathematics is a little less than the present average as revealed by the *Red Book* survey, but is the same as recommended in *Improving Secondary Schools*;
- (b) Possibilities of additional time for literature and remedial English exist under Options;

- (c) Mathematics is seen as a course which embraces not only the knowledge deemed desirable by the subject specialists, but as a genuinely core subject, related to and supportive of science, technical, vocational and economic studies;
- (d) It is assumed that an integrated science course will be adopted, embracing the three main elements of says should be studied until the age of 16. This then becomes compulsory for all pupils and gives a broad and coherent science course which is adequate for the needs of all pupils except those who are likely to take separate GCE Advanced Levels post-16;
- (e) Humanities remain a problem, as was noted earlier. Unsatisfactory as it is, there seems little alternative but to offer pupils a straight choice of good history and geography courses, unless schools are satisfied that integrated humanities courses do include sufficient of the essential elements of these studies and sufficient content to justify change;
- (f) The time allocation allows scope for any of the approaches described in chapter 2 to be adopted:
 - (i) single-subject 2-year options, similar to existing GCE-CSE courses;
 - (ii) modular courses;
 - (iii) two year subject-based courses, but divided into half-term (6-8 weeks) unit with clear objectives which are known to the pupils at the outset, and with assessment of progress in discussion with each pupil at the end of every unit, as proposed in *Improving Secondary Schools* as a general change for all subjects;
 - (iv) the non-subject based approach.
- (g) Constrained options are offered in the aesthetic, humanities and ethnical and vocational elements. This allocation for Options is the only time when free options

are offered. Remedial options are intended to be in the sense used by Hargreaves, *i.e.*, both remedial in the traditional sense of additional help to students have difficulty with basic skills and concepts, and additional studies needed by pupils, irrespective of their general level of work, because they and their teachers see a major gap or gaps in their experience to date;

- (h) *Modern language remain a difficulty.* It is proposed that the free option slot be the place where a foreign language may be studied. No allocation is made for a second foreign language may be studied. No allocation is made for a second foreign language below the age of 16. Hargreaves, in *The challenge for the comprehensive school* argues for the abandonment of foreign language studying until students see a possible use for one, when they will acquire at least as satisfactory a standard in a short time by an intensive course at an older age as they do now by the long haul and short doses from 11-16. His argument will persuade many. Certainly the notion of all children spending more than 500 hours studying French from 11-16, in order to achieve the level of proficiency in French-speaking and writing which we know as a nation we have acquired, is hard to justify. However enjoyable for some pupils, and a allocation of time for one is made. The alternatives for a second foreign language would then be as part of a business-orientated vocational course in the technical and vocational slot or as an intensive post-16 course in the technical and vocational slot or as an intensive post-16 course. The former needs to be undertaken with care. One has heard of course, intended to be vocational, which look similar to traditional courses and which have changed their names only to attract resources;
- (i) The core is not intended to be modular, which would allow choice. Nor is it intended to be based on a carousel of courses, although there are organisational arguments in favour of this approach and the accommodation of physical education may require it. It is thought of as

courses, quite short but of variable length, to be taken by a team of teachers, including some senior teachers such as heads and deputies. The size of teaching group would vary, as would the learning methods. The planning would take account of the fact that careers guidance, for example, needs a big time allocation sometimes and then nothing at all for a period. The proposed arrangement allows considerable blocks of time when it is needed, or for two or three courses to be taught in parallel. Its flexibility is a principal virtue.

Observations on the framework

The success of a framework of the kind proposed depends on the whole staff of the school accepting painful change. Scientists, especially physicists and chemists, who see general science courses as but the necessary preliminary to the narrower study which has been the focus of their own studies and of their professional training since the age of 14, may need some persuasion to look at the problem as an educational one. On the other hand, teachers of aesthetic and creative subjects, and to some extent of technology, will recognise that the framework gives them reserved allocations. They are no longer competing with science, modern language and other subjects, which in the eyes of parents have primarily a vocational justification, but are in competition only with each other. It would be a welcome paradox if a curricular framework which is designed to accommodate both current thinking about the curriculum as a whole and the specific needs of technical and vocational studies, were to free music, dance and drama from their greatest handicap — their lack of a *raison d'être*.

Experience from many of the pilot TVEI project suggests that longer periods of time than we normally allocate are more effective for lessons where process is important as well as content. Half-days have commonly been found to be useful. This experience might also be applicable to other subjects or elements, for example science, aesthetic and creative subjects, perhaps even humanities. One of the problems which we currently face with options is the conflicting time

requirements of subjects in the same option block. If French and Art are in the same block, the teachers of the first usually like to have four periods on different days, whilst teachers of the latter want at least double periods. The curriculum framework suggested eliminates this disparity of requirements except for the one strand where free options remain.

We have to face the problem analysed earlier - the difficulty of finding compatibility between the GCSE principle of single-subject based examinations and the CPVE principle of a whole curriculum. GCSE will provide an assessment for at least the top 60% of the ability range and will certainly continue to be the examination for all those who would have taken GCEO levels, that is, the ablest. It is not, however, a mere extension of O level, as Sir Wilfrid Cockcroft of the Secondary Examinations Council has emphasized; there is encouragement that more marks be awarded for teacher-assessed course work, for example. Alongside GCSE the DES has been promoting pilot developments of curricula and methods of assessment and validation for the 40% least able pupils under its Low Achievers Project. The two developments could be taken to cover the full ability range, and some of the pilots are designed with this mind. CPVE, on the other hand, could be available in theory to the whole ability range from 14-16, although it does promote itself as 'an alternative route' and it is difficult to imagine that a youngster who could obtain eight GCSEs and regard them as the same as eight GCE O levels will readily forego the opportunity. The choice facing schools therefore seems to be stark. They either use GCSE and the Low Achievers Project as the basis for the curriculum and its validation of all their pupils, ignoring CPVE, or they divide the year group at 14, probably into three groups: GCSE for the ablest and parallel GCSF and CPVE curricula for the average and below. The only other compromise would be a combination of GCSE subjects and a part-time CPVE. This would not avoid the need for a fundamental choice to be made by schools. It would only blur the edges. It is unfortunate that schools should have to face

such a choice.

This lack of coherence in planning, which has produced a multiplicity of education and training schemes, many of recent origin, attracted the attention of government in the autumn of 1984. Spurred by a report entitled *Competence and competition*, prepared by the Institute of Manpower Studies at Sussex University at the request of the National Economic Development Office and the Manpower Services Commission, the government began to grasp the nettle which it had itself planted and nurtured. Geoffrey Holland, Director of MSC, complained that existing vocationally-related programmes were not producing the flow of technically competent young people which three major competitors—the USA, Japan and West Germany—were producing. The most important conclusion of the studies made of these three countries is that they give all youngsters a longer period of education and training than Britain does. We can be sure that Britain will move to a *de facto* education/training leaving age of 18 before long, if only as a contribution to the shorter working life which must follow technological advance and unemployment. There is no answer to our dilemma in this report and the discussions which it has promoted. Indeed, the recommendation that 80% of young people should enter the labour market with a qualification relevant to their employment, if coupled to the German example of a selective secondary system to 15 or 16 followed by the equivalent of an A level/vocational education divide, is worrying. If 20% of British students were to take GCSE followed by A levels and 80% were to take CPVE as the basis of a 14-18 curriculum, we should be perpetuating a divide in education, training and society which may be a major cause of our industrial decline as well as being educationally archaic. Perhaps the most important observation in this report is that, 'It is rarely possible to transfer parts of the system of one country into another and achieve similar results'.

Similarly the Secretary of State for education was concerned about the lack of coherence. Referring to proposed

GCE A/S level, TVEI, CPVE and YTS, Sir Keith said that. 'The Government aims to define standards of performance and to develop a system of certification which can be applied to both YTS and to pre-vocational courses in schools and further education it would be helpful to schools if the government were to succeed. The schools will not that all four phenomena started or were planned in the same academic year of 1983-84 and may wonder whether it is sensible to design different routes and then try to make them coherent as a secondary activity. We may also note the absence of GCSE and GCE A/S level from Sir Keith's aim to achieve coherence, and may be anxious about the possible reemergence of a duality of routes which we have been trying to discard. Is it too much to hope that we might have in England and Wales what has been proposed by the Secretary of State for Scotland, that is, one examination board for all sub-degree level of education awards?

There are aspects of the framework which are essential and should not be overlooked just because they cannot be represented in the diagram. The first is the need for coherence in each individual *Red Books*. The framework is intended to achieve that coherence, but will not do so if English and mathematics, for example are seen as discrete studies. We know that, in the wake of Bullock and Cockcroft if not before, this should not be the case. However, it often is.

The second is the need to abandon the whole timetable for the whole year group for days, sometimes for a week at a time, in order to send pupils out on work experience or to have some combined activities such as educational industrial visits. Critics will say that this is a further erosion of learning time. It is not. It is a loss of subject teaching time. It will only be a loss of pupil learning time if it is badly done. The week cannot be lengthened. The new cannot come in without concessions from the old. The point is fundamental.

This chapter and the book as a whole are concerned with the 14-16 curriculum, because this is the period of education where young people are approaching the end of compulsory

school. Consequently, it is bound to have a different emphasis from what has gone before and what is to follow. There is no need for significantly different curricula for pupils in the first three years of secondary school (ages 11-14) and little variation occurs. After 16 there is a great variety of provision both full-time and part-time in schools, further education and tertiary colleges, company training schools YTS, information technology centres, etc. This is likely to continue. The changes in the 14-16 curriculum are part of general change, however, and they promote it. Changes at 14 which are occurring now, the development of information technology courses for example, may change learning methods in the whole of the secondary school across the curriculum once the principles are understood, the equipment provided and the staff trained. Curriculum planning for the whole school should have regard to the need for a continuum of education and training. Humility and the need to address ourselves to manageable tasks require us to concentrate on parts of the whole. We should not forget the whole.

Curriculum development requires that all teachers who contribute to it in a school have time. We cannot continue to regard classroom work, and its consequences such as marking, as the only activity admissible in the day-time responsibilities of most teachers. The consequence of that is that course planning, the development of learning materials and counselling students are seen as extra curricular activities. This is well understood in schools. It is understood by the DES. Having observed the range of between 72% and 84% for the average teachers' contact time with pupils in different schools (a big variation) the DES Note of September 1984 states that 'schools need to set aside enough non-teaching time for preparation, marking and in-service training and other professional development.' Schools can do a certain amount by increasing class size at the secondary level to achieve this, which is what some schools at the lower level of the contact range are doing. Significant improvement is impossible until the Secretary of State convinces the Chancellor of the Exchequer.

Monitoring

The work of schools should be constantly monitored and success in achieving specific objectives should be evaluated. This is done all the time by Her Majesty's Inspectors, local authority advisers inspectors projects covering particular aspects of school work such as those conducted in the past by the Schools Council and by individual schools. Monitoring is an aspect of both accountability (letting the community which pays for education know what is being achieved) and development. It has both a passive and an active function. The current reform of the curriculum, to change the content of courses and approaches to learning, is intended to have profound and permanent consequences. It is clearly important that we should know what is happening as it happens, measure progress towards agreed objectives, recognise problems and suggest solutions identify and publicise good practice and expose bad practice.

National monitoring

The Technical and Vocational Education Initiative is being monitored nationally in several ways:

- (a) A database containing unidentifiable information on all students and teachers is being compiled;
- (b) The curricula followed by TVEI-funded students are being investigated by Professor Harrison of Trent Polytechnic;

- (c) A financial database will attempt to provide government with information on the costs of particular courses and on alternative methods of providing them;
- (d) HMI are conducting their own survey;
- (e) Research institutions have been invited to investigate particular aspects of the initiative. It is important that there should be monitoring of major themes across the initiative as a whole. Questions relating to strategies for avoiding sex-stereotyping, whether the full ability range of students is represented and employer perceptions of the scheme are examples of important issues for which answers still have to be provided. As information is drawn together across the scheme local authorities learn from each other. Later evaluation will need to consider the relative success of different approaches to the basic objectives of TVEI;
- (f) There are some university-led research projects which monitor several of the pilot projects for example that being conducted by Lancaster University. The first phase of this research compared the schemes from Barnsley, Wigan and Wirral. An analysis was made of student and teacher attitudes towards TVEI. The expectations of students their career aspirations and their comprehension of the aims of TVEI were explored by the administration of questionnaires. It is intended that this research programme can expand as other projects join the Lancaster monitoring. Their emphasis over the life of the project will be to follow a sample of the first intake of students through the four years and to gather information about subsequent annual intakes, recording any change from previous years and seeking reasons why changes have occurred;
- (g) Independent national evaluations, concerned mainly with aspects of curriculum, change are currently being developed by the National Foundation for Education Research and the Education Department of Leeds University.

Local monitoring

It is essential that each individual project is carefully monitored. An example of local monitoring is the Devon project at Exeter where the Education department at Exeter University has appointed a research assistant to follow a monitoring programme through two or three years; other individuals with interests in particular aspects of the scheme will provide research information on a part-time basis. A detailed case-study of the first two months' planning of the project has been compiled by a teacher, seconded to the university for one year; this document provides an important contribution to the Exeter monitoring programme.

A local authority approach

Hertfordshire is one of the first fourteen TVEI projects and is being monitored in three ways:

Monitoring and Assessment Group

This has been established by the County's Chief Adviser and works with the project. It is small group made up mostly of local authority personnel who are not directly involved in the project. Aspects of the project which it is examining are balance between core and technical and vocational elements, work experience and liaison with industry, involvement of further education, counseling and guidance and resource implications for dissemination to the rest of the county.

Independent research into particular aspects

The first example of this is the part-time secondment of a deputy headteacher to investigate strategies for ending sex-stereotyping and promoting equality of opportunity for girls and boys as a university supervised research project.

Independent research into the fundamental curriculum change which is being promoted

I have been seconded for four years having been a Senior Teacher and Head of Science in one of the pilot schools to work

on monitoring the curriculum in the ten pilot schools. My work is being supervised by an institution of higher education and is a piece of independent research which must meet the academic demands characteristic of such work. As I am locally based I am able to participate in planning meetings, thus gaining insights into things about future developments and being able to contribute data from my investigations so far.

A framework

A framework for monitoring in Hertfordshire arose from a realisation that the promotion of technical and vocational elements would produce fundamental changes in the curriculum and that the implications for schools were far-reaching. The consolidation of new courses into existing programmes for fourteen to eighteen year olds exerted pressure on an already-overcrowded option system. TVEI was expanding the curriculum in technical and vocational content; it was for the schools to maintain balance and breadth in educational experience whilst responding to the pressures of a changing industrial society.

It was clear at this very early stage that there was a need for schools to assess for themselves what effects were being produced. A major attempt at curriculum reform requires enquiry into the nature of that change; teachers have need to examine the change, considering the implications from all educational perspectives. The uniqueness of the initiative in its impact on curriculum innovation was sufficient stimulus for me to construct a programme of enquiry. It was important that the investigation was rigorous and that any judgments made would be impartial and based only on accumulated evidence deduced from objective information.

The relationship of monitoring and evaluation

It is helpful to distinguish between monitoring and evaluation. Monitoring is a continuous process of gathering information relevant to change. It is a characteristic of monitoring that events are recorded as they happen, that important evidence is not lost. Once data is available, it is

diagrammatic form central curriculum issues for each educational institution such as:

- (a) the original curriculum prior to TVEI;
- (b) subjects enhanced by the funding of TVEI;
- (c) new subjects in the curriculum as a result of TVEI.

The first year of TVEI is unique in offering measurable information of the specific change in curriculum offered to individual students. Some schools were at an advanced stage of subject choices when the scheme was announced. The students from these schools who joined the scheme had two observable curriculum designs, pre-TVEI and post-TVEI. It has been possible to examine the effects of introducing greater emphasis on technical and vocational elements for particular children.

In order that the objectives of TVEI should be achieved, the Manpower Services Commission laid down certain criteria which had to be met by the local education authorities. A maximum of thirty students from each institution could participate with equal numbers of boys and girls representing the full ability range. It was the staff in the schools who assessed which youngsters were most suited to the course.

The senior careers officers for TVEI and I conducted interviews with staff in five schools to discover how each of the schools set about the process of guidance. These sessions have provided important information and ideas. We have a pool of valuable thoughts and experiences which if shared, offer possibilities for all schools to make improvements in the procedure of option guidance. Staff from the schools have felt able to make suggestions about how they thought the project might make adjustments, which provide important dialogue for planning future directions.

Monitoring the ability range

One of my chief concerns was to monitor the ability range of students. If the full ability range is represented then the

scheme is truly comprehensive. If technical and vocational subjects gain equality of status with traditional subjects, if able students are encouraged to include technological and vocational areas in their educational programme without fear of damaging their route to higher education, then the scheme will have brought about significant change. If the full ability range is not represented then the scheme will fall short of its intentions. Technical and vocational education with planned work experience, is for all students.

Monitoring the ability range of TVEI students meant identifying the range of their measurable abilities in relation to other members of their year group. The first task was to investigate the types of 'ability' tests available it was important to examine one's reasons for embarking upon the exercise. It was easy to decide that an objective measure of student abilities was necessary. It was not quite so easy to find a test which met all our requirements and the sensitivities of students being asked to participate in the process. I was certain that several criteria had to be met if testing were to answer our needs.

1. The presentation of the test had to stimulate students to respond positively, to reveal their true abilities if the test results were to be reliable;
2. The standard of response required by the test had to be appropriate to the age-range of students we were considering;
3. The testing should offer teachers, parents and students positive feed-back of student achievements: it seemed a poor educational reason for testing simply to place students on a standardised scale, without the possibility of real dialogue concerning the outcome of results;
4. The test needed to suit a wide ability range of youngsters, as we were involved in testing approximately 600 students from four schools with an all-ability intake;
5. The test should acknowledge a range of differing abilities

- which were to be assessed separately;
6. The test needed to allow the possibility of re-testing at different points in the scheme if information were to be accumulated over a period of time.

Advice was sought from several people experienced in the field of psychological testing. We were slow to decide which test should be used. Finally we were satisfied with the process of testing. Students responded well; even those who resisted initially became absorbed by the demands of the test. The test gave the measurements we needed. We recognise the limits of this kind of testing and are conscious of the need to provide a range of evidence in the assessment of cognitive abilities when coming to conclusions regarding individual students.

The criterion relating to equal opportunities for boys and girls that there should be an equal number of each on the scheme and that courses should be designed to avoid sex-stereotyping, was considered to be of such major concern that it is being monitored separately as already indicated.

Post 16 monitoring

The monitoring of changes in educational provision beyond the age of sixteen promises to be more demanding than the monitoring exercise thus far. The schools are grouped into consortia for 16-18 courses. The complexity of planning increases as the arrangements between the schools develop further, as further education becomes integrated into the process, and as the diversity of courses becomes much greater.

There is a wide range of information about individual students which needs to be monitored as they enter the scheme. Their reasons for participating, their abilities and aspirations are matters of prime importance throughout the scheme. What happens to students as they leave the scheme, which skills and qualifications they have acquired and where their vocational orientations finally lead will need careful monitoring.

The growth of links between industrialists and educationists is central to the reform. There is important information concerning employer perceptions of TVEI to be gained from the monitoring of works experience programmes. TVEI has generated employer involvement in curriculum planning and in the writing of examination syllabuses. As employers and teachers work together towards documentation for the school-leaver which is more detailed and useful than past records, so mutual understanding increase.

These issues, which in Hertfordshire are considered to be central to the monitoring of curriculum change, can be summarised in the diagram though it must be said that if monitoring is fulfilling its function, the programme will be flexible and adjustments will be made as need dictates.

The education of teachers

Proposal for curriculum change based on pre-vocational and vocational initiatives present teaching staffs in secondary schools with a formidable challenge. They are no less demanding of those who provide programmes of teacher training to those entering the profession or to practising teachers. All such proposals require a major shift in attitudes and approaches. Essentially what they challenge is the exercise of benevolent authority upon which so much of the tradition of schooling rests. They question whether in a learning environment in which the teacher wields authority partly by disciplining behaviour from a position of guardianship, in *loco parentis*, and partly by disciplining learning from a position of authority in knowledge, are helpful or inhibiting to students who are about to enter in adult world in progressing towards independence, autonomy, assurance and self-sufficiency. Furthermore, they invoke teachers to revise their practice in quite specific ways:

- to change the basis of staff/student relationship;
- to design programmes of active, participative, experiential learning, applying the principle of

may serve to strengthen this possibility.

Even supposing that both types of courses could be so designed and organised as to bring students to understand and practise in the recommended fashion, the impact on the system as a whole should be marginal, since the total numbers of new entrants required in the secondary sector in the next decade is so small. The projections made by the Department of Education and Science (DES) in a report published in March 1984 include annual average number of new entrants to secondary schools as 5100 to 1990 and 9200 from 1990-95, joining a total teaching force of secondary teachers falling from 240000 to 200000 in the same period. Projections of the future age distribution of the teaching force in these same ten years show that the over 40s will form almost two thirds of the total with teachers aged 40-49, the new entrants during the expansion of the late 1960s and 1970s, as the largest single age-group. This is the same group of teachers covered in the report by Her Majesty's Inspectors (HMI) *Aspects of Secondary Education in England* published in December 1979, who at that time 'had less than ten years experience' and who had their professional initiation in the period when secondary education moved from a largely selective to a largely comprehensive system, with all the disruption which that entailed, at a time of greatly expanding pupil numbers. The report commented that 'institutional change in these circumstances can lead to a basic lack of confidence and this in turn to a tendency to play safe, to fall back on the familiar and the known. It can thus strengthen the tendency to conservatism which is a built-in feature of the teaching profession'. Institutional change was not all that was required of teachers in this period: the Certificate of Secondary Education (CSE) was established as an alternative to the earlier GCE O level examination at 16+: there were numerous curriculum development projects emanating from the Schools Council affecting most areas of the curriculum and new assessment procedures to support the new examinations; then in 1973 the school leaving age was raised to 16 years. Much of this change was seriously underfunded but, in particular and

most significantly, it was achieved on totally inadequate staff development programmes.

A further difficulty in the present situation is that surveys of the work of schools in recent years have expressed a particular concern about the low level of qualification of many teachers in the subjects they are teaching. As examples, in the schools surveyed in *Aspects*, HMI reported that 14% of those teaching French recorded no qualification in the subject; the report of the Cockcroft committee *Mathematics Counts* 1981 estimated that 38% of all mathematics teaching in maintained secondary schools was being undertaken by teachers whose qualifications were 'were' (17%) or 'nil' (21%); in other words almost two-fifths of all mathematics teaching was in 'unstable' hands. This situation has led to the promulgation of criteria recommended to parliament by the Secretaries of State in a White Paper Teaching Quality in March 1983, by which courses of initial teacher training will in future be judged before approval is granted.

The broad requirements set out in the White Paper lay first emphasis on 'at least two full years' of course time devoted to subject studies at a level appropriate to higher education. This requirement would recognise teachers' need for subject expertise, if they are to have the confidence and ability to enthuse pupils and respond to their curiosity in their chosen subject fields. Furthermore, all training courses should include adequate attention to teaching method in the chosen main subjects, differentiated by age of intended pupils.

These requirements, indisputably worthy in themselves, may do much to limit the attention given to the fundamental difference of offering an education 'through' curriculum subjects rather than 'in' the individual subjects of study. They seem likely to continue, if not to increase, the emphasis on the notion of 'pure' subject studies; there is no mention here of 'application' or 'connection' or 'relevance'. At best this may be an example of an opportunity missed, at worst it might be seen as a continuation of the confusion illustrated in paragraph 10.9 of the Green Paper *Education in Schools* which stated: 'in

addition to their responsibility for the academic curriculum schools must prepare their pupils for the transition to adult working life'; as if the academic, subject-based curriculum was in some special way separated from these other considerations.

More recent authoritative statements concerning initial training are scarcely reassuring; the dichotomies are less obvious, the separations no less pervasive. In a paper *Teacher Training and Preparation of Working Life* HMI, after enunciating as a first priority (students) need to teach their subjects well and effectively went on to say, 'initial training institutions should also make positive efforts to ensure that future teachers understand the part that their subject plays in the economic and cultural life of their society. Similarly a statement by HMI on the *Content of Initial Training Courses for Teachers* attempts to resolve the difficulty in this way: 'Methodology of the main subject should include consideration of the contribution which the subject may make to the personal, social and academic development of pupils: the contribution which the subject well enough to understand how it can be made accessible to pupils of different ages and abilities; links between the subject and other subjects and a very close knowledge of inter-related subjects.

The two-fold failure of the present subject curriculum is its lack of relevance to that big majority of pupils who will not proceed to advanced study in any of the disciplines and inappropriateness of presents knowledge in the form of conceptual abstractions and organising principles to pupils whose level of intellectual development and experience do not match the demands of the materials offered.

The central issue for subject curriculum designers, in response to the widespread concern that pupils in schools should gain experience more directly related to life, is the selection of subject contents and learning activities which will give meaning to pupils experiences as they move about the world and will enable them to engage confidently with the range of personal and social challenges with which they are

faced in making the transition from youth to adulthood.

The dangers inherent in laying undue emphasis on pure subject studies in initial training deserve mention, because of the considerable effect they have in shaping the attitudes and ultimately, the professional identity of the student becoming a teacher. Perceptions built within the present subject-ridden curriculum are supported by early specialisation and so-called 'single-subject' examination qualifications. Students entering training may well have chosen their teaching subject specialism at the age of thirteen or fourteen and it may be as narrow as a single science, physics, for example, so that they may argue, with HMI, that they are ill-equipped, 'unsuitable' to teach biology in a combined science course with eleven and twelve year-olds. In evidence to the Parliamentary Committee on *Education, Science and Arts*. Mr Arnold Jennings of the Schools Council, a headmaster of many year's experience summarised the situation like this: 'A head who has notions of what is called "general science" has to do battle with graduate staff who say, "But I'm a physics graduate, Mr Jennings, I can't teach biology. "I say, "I take it you know some biology. Possibly you could cope with the academic demands of the second form. 'And they are really sniffy at this suggestion.'

Too often the commitment to subject provides the central reason why students choose a career in secondary teaching. It is a common experience in interviewing candidates for training to have them say that they wish to share their love of the subject with pupils, so that the system becomes self-regenerating. Vocational considerations can then be interpreted and satisfied through the examination system, where study of subjects given instrumental purpose in providing qualifications based on judgments unrelated to their use in screening or selecting candidates for a wide range of industrial or commercial careers. If subject certification has any vocational validity it may be in identifying those who might proceed to teaching. It is a perverse feature of the system that for teachers all subjects are vocational, if learned or taught with entry to the teaching profession as the end goal. The

problem here is that subject teaching thus becomes introverted and never looks beyond the world of scholarship for its justification. To continue with a system of initial training which embodies this priority may be self-defeating, if there is any expectation that newly-trained teachers may be enlisted as agents of change.

The case for extensive provision of in-service education and training of teachers (INSET) has been well made over many years. The James Report, *Teachers Education and Training* proposed the systematic induction of probationary teachers as the second phase of initial teacher training and in-service training as a continuing process throughout the whole of a teacher's career. Following the report, INSET committees have been established on a local and regional basis to monitor the programmes of courses provided in any area, with a view to ensuring that the provision meets the expressed needs of the service. Although the effectiveness of these committees is often called in question, their presence marks a significant move towards the establishment of a system of in-service education and training designed to service perceived needs.

May local education authorities have, at the same time, developed policies for course provision and the secondment of teachers in line with explicit priorities. These developments are in line with recent proposals made in a European Community (EC) report, *Policies of Transition* which summarises the work of thirty-eight projects undertaken throughout the member states to examine approaches to the problem facing young people in the transition to adulthood. The report suggests the development of local or regional networks in order, among other objectives, to establish co-operation between schools, colleges and training institutions, as well as industrial and commercial training agencies, and to ensure the support of the 'administrative authorities', whether central or regional.

Change on the scale envisaged in proposals made for new vocational and prevocational programmes cannot be achieved in the absence of clear, coherent and co-ordinated

policies of in-service training developed at every level; national, regional, local and institutional. Critical to the ultimate success of INSET provision however, is the acceptance by staff of the need for training to meet the challenge of change. The Standing Committee for the Education and Training of Teachers (SCETT) in a document *Inservice Education and Training of Teachers* argues for 'promoting a sense of personal, professional training obligation' to be closely related to the defined needs of the school which the teacher serves'. In this respect 'involvement in the processes for identifying needs, establishing procedures, recommending priorities where interests compete, reviewing provision, modifying policy as changing circumstances require and evaluating the effectiveness of the in-service undertaken' might serve as the basic in-service right, responsibility and training experience for every teacher. The EC report provides a critical insight. Its projects demonstrated 'that it is often the lack of clear and consistent policies on the part of administrators and the heads of institutions which prevents staff development, rather than the resistance of staff themselves' and 'that many staff are willing, given support, to develop new skills, new approaches to their work and more flexible, non-traditional attitudes. Many are increasingly open to the idea that their role should be that of facilitator, rather than the giver and controller of knowledge, which has been the more commonly accepted role of the teacher.'

The Inner London Education Authority (ILEA) in its report *Improving Secondary Schools* proposes that the process of staff development should start with the appointment of a senior officer with the responsibility for staff development committee to establish and service the school's priorities for INSET in relation to the authority's central responsibility for employing authorities and the heads of institutions in which teachers, who are increasingly expected to have regard for the vocational aspirations of their students, pursue their own careers, are not yet realised in practice. A report by the ILEA research and Statistical Branch, *Management Training for Senior*

Staff showed that only ten per cent of headteachers rated INSET the career development of teachers and probationers as a major managerial task, and only two percent of heads and deputies had taken courses on staff development INSET.

At the national level the chorus of demand for improved INSET provision is growing and the case for better planning and major funding is being won. The Advisory Committee on Supply and Education of Teachers (ACSET) has recommended major changes.

A press notice summarises its report to the Secretaries of State including these among its recommendations:

- a general to LEAs for INSET should be introduced, to provide some safeguard that resources intended for INSET are devoted to that purpose and to reduce the disparity that exists in opportunities for INSET between different part of the country;
- each LEA should develop clear and coherent policies towards INSET;
- LEAs should set budgets for INSET based on a target equivalent to about 5% of their expenditure on teachers salaries: this target should be taken into account in the determination of the overall level of the general grant to LEAs;
- a review of each school's INSET needs should be carried out annually;
- each school should satisfy itself that there are adequate staffing resources for each school to enable school-based INSET to take place;
- the Secretaries of State should invite proposals for area INSET committees to act as 'broker' between LEAs and higher education institutions in promoting a match between INSET needs and provision;
- including award-bearing courses.

The Advisory Committee suggests that taken as a whole its recommendations imply the need for something like a doubling current LEA expenditure on INSET. It does not suppose that such an increase would be possible without the provision of additional resources for INSET.

The setting up of proper frameworks within which systematic programmes of training and retraining may be mounted would not of itself ensure either that sufficient priority would be given to work in this area, nor that such work would achieve the desired effect, but it is an essential pre-requisite to the successful implementation of the policy.

Undertaking curriculum change makes heavy demands upon teacher time, and time in schools is a scarce resource. In *Aspects of Secondary Education* (HMI), a significant section examines reasons why teachers find it difficult to think and plan collectively:

'The planning of coherent policies and their effective implementation require the collective involvement of the whole staff. They also require clear and effective leadership, by heads and by heads of departments and senior staff. The indications are that collective thinking and planning are difficult to achieve, even where there is appreciation of the need. The reasons will not be the same for all schools. One which can be confidently adduced in many cases has already been touched on - lack of time. The discussion of policies, their translation into the planning of specific programmes of work in the classroom, their regular reassessment and evaluation take more time than many teachers have available to them if they are also to keep up with daily preparation and routine marking. The time available is further reduced if, for entirely valid reasons, teachers are also asked to make more contacts with parents and the outside world, both to enrich their own teaching programmes and to interpret the work of the school to others who have interest in and responsibility towards it.'

Policy proposals need the support of adequate resourcing if they are to succeed.

Among the first 'pump priming' initiatives to provide teachers with the opportunity for extended study in the pre-vocational field were course of six weeks' duration at designated institutions under a scheme of direct funding by the DES. This section gives a brief account of one such course as an exemplar of such provision together with a participant's descriptive evaluation of the course and its outcomes.

On 1 September 1982 the Secretary of State announced his intention to introduce a scheme of direct grants for in-service teacher training in 1983-4. The main purpose of the scheme was to give direct financial assistance through the new Teacher Training Grants Scheme (Department of Education and Science to local authorities when serving teachers were released for training on designated courses. Within DES Circular 3/83 one of the four specified priority areas for retraining was pre-vocational education in schools. This was included again in Circular 4/84 with the following statement of intent:

Schools have a key role to play in preparing older secondary pupils for vocational education and training, notably but not exclusively in the Youth Training Scheme (YTS); they are also involved to an increasing extent, in the Technical and Vocational Education Initiative (TVEI) for 14-18 year olds, and in courses leading to the Certificate of Pre-Vocational Education (CPVE) for 16 year olds. Teachers may require assistance in preparing suitable pre-vocational programmes for their students. The courses may require assistance in preparing suitable pre-vocational programmes for their students. The courses currently eligible under the scheme, of six weeks' duration, are based on establishments which offer significant programmes of teacher training, and draw on the experience of those secondary schools and FE institutions which are already working in the field. There is a strong emphasis on the needs of the world or work, especially in the areas of language, technology and mathematics, and on identifying appropriate skills, teaching styles and materials, and forms of social and personal education. In particular

Teachers are encouraged to consider how links between pre-vocational programmes and industry and commerce might be developed. In addition to these opportunities, the Further Education Unit's programme of staff development opportunities, targeted on the needs of CPVE teachers, may be appropriate to school as well as FE teachers, and the Department will give favourable consideration for grant purposes to arrangements for school teachers to attend such opportunities jointly with FE teachers.

The number of institutions offering six-week in service courses is increased from thirteen in 1983-4 to eighteen in 1984-5 when local authorities were allocated increased financial assistance to release teachers for this area of retraining. In the Eastern Division, Homerton College was designated as a providing institution. Teachers are recruited from the six counties; Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Norfolk and Suffolk, as well as from the North London boroughs of Barking and Dagenham, Enfield, Haringey, Havering, Newham and Redbridge. After liaison with local authority representatives a decision was made to split the thirty-day course into two parts.

The first part of fifteen days, the Orientation Phase, aims to provide the teachers with a good background of the current state of pre-vocational education. This phase offers:

- clarification and identification of the rationales, aims and principal components of pre-vocational education.
- a broad base on which more informed development of pre-vocational courses can be made
- an opportunity to extend industrial, commercial and community contacts and to examine ways of promoting liaison
- an opportunity to study new approaches to teaching and learning and to study techniques and purposes for assessment
- development of some new area of activity for the teachers

to exemplify these new approaches to learning and assessment

- exploration of personal and supportive curriculum
- an increased awareness of the network of support services, nationally and locally, for pre-vocational work. Time is given to maintain contact with the local authority co-ordinator

Between the two phases of the course participants return to their posts in schools for the Interim Phase. This kin-school period provides the opportunity to test ideas developed during the Orientation Phase, to examine and consider curricular and institutional implications and to establish local links.

The second part of fifteen days, the Exploration Phase, is structured in modules so that the teachers can extend their studies from phase 1 to develop and intensify areas which best suit their needs and the needs of their schools. Modules are :

- communication skills
- numeracy
- science and technology
- information technology
- community education
- economic literacy
- health education
- recreational and leisure pursuits
- visual arts
- computer literacy
- education for enterprise

During this phase participants consider the design and implementation of learning programmes for their schools including programmes for their school including programmes

of staff appraisal and development and implications of the new programmes.

Evaluation

The course adopts an active mode as the dominant mode of engagement for all course members, both tutors and teachers alike. Members, both tutors and teachers alike. Members are involved in alternative approaches to study for example investigations, problem solving, simulations and game situations and in alternative methods of assessment such as profiling and records of achievement.

Visits are made to industry, commerce and the whole range of supporting services and alternative provisions; those who are active and experienced in these fields are invited to contribute to the course.

There is direct contact with young people in contexts in which they feel some confidence and with people who work successfully with them outside school; youth leaders, social workers, sport club leaders, for example.

All the work is supported with resources such as films, audio programmes, video materials, simulations, business games and computer programmes as well as with a collection of course and programme outlines and the accumulated literature in this field.

Contributors to the course are drawn from the college and outside bodies such as the Careers Research and Advisory Centre the National Institute for Careers Education and Counselling, the Joint Board for Pre Vocational Education, the Economics 14-16 Project, the Central; Council for Physical Recreation, the Secondary Science Curriculum Review, Project Trident and Young Enterprise. Other contributors are a Technical and Vocational Education Initiative project director, an Understanding British Industry regional director, HMI, local authority inspectors and advisers, managers of education liaison from industry and local teachers.

Course members are expected to develop materials and

programmes for their own schools. Simultaneously the group looks at common problems and possibilities between schools across the region. At appropriate times course membership is extended to include senior management from members' own schools to examine and advise on the institutional implications of applying the emerging approaches and course arrangements.

Pre-vocational education implies a departure from traditional syllabus-bound 'chalk and talk' approaches and the introduction of more student-centered and participatory forms of learning. The in-service courses should reflect this methodology. When traditional lecture format is used in the course, course members appreciate authoritative and flexible speakers but they are intolerant and critical when speakers appear unable to depart from formal presentation. Active, experiential learning has been entered into enthusiastically especially where the approach is then discussed in terms of its application to school work. Participants are anxious to develop materials suited to their own areas rather than fall back on commercially-produced materials. Avoidance of re-inventing the wheel, though, is a common concern.

HMI invited all courses co-ordinators from the thirteen 3/83 providers to a conference in Oxford in June 1984. Although many courses, like the one at Homerton College, had involved senior management from participants' schools at some stage during the course, and close liaison with local authority representatives had been established, it was felt that participants of the courses would feel frustrated and despondent on their return to school and authority if no follow-up support was offered. It has been encouraging in the Eastern Region to know that teachers who have attended a 3/83 course are being called together by their local authority co-ordinators with a view to establishing their role as pre-vocational tutors within the authorities. Certainly this is already happening in some authorities where the teacher-tutor is acting as co-ordinator for activities within that authority alongside the Homerton College tutor for subse-

quent 4/84 courses.

Continuing liaison between course providers and local authorities can only help to maximise the experience gained by everyone involved in these new course. Local authorities, and the schools and further education colleges within them, will develop a policy for prevocational education which must include a coherent policy for in-service provision.

Learning to Solve Problems and Learning as Problem Solving

It was noted that modern industry requires workers who are capable of applying their knowledge in a flexible, adaptable way and that there is a need to embed the teaching of thinking skills in vocational education and training, it is through thinking more efficiently that we become better problem solvers at work and in our own personalities lives.

For nearly a century psychologists have been working at understanding thinking. The intention in this chapter is to present only those aspects of psychological theorising which are necessary to crease sufficient understanding for you to incorporate the teaching of thinking into your vocational programmes.

Obviously thinking happens inside people's heads. Techniques for direct observation of what is happening inside people's heads when they are thinking havenot yet been developed, nor are they likely to be in the foreseeable future. Descriptions of thinking are based on indirect evidence. Various techniques are used which permit inferences to be made about the thinking process underlying task performance. One technique is the verbal protocol. This is obtained by asking people to describe their thinking by talking aloud as they are completing a problem. Psychologists are particularly interested in charting the thinking of experts in

different occupational areas on the assumption that their thinking processes are the most efficient ones for the tasks which they tackle in their working lives.

This chapter begins with a brief consideration of whether it is possible to teach people to think more efficiently. If thinking is manifested in solving problems, it is necessary to have a working definition of 'problem'. Therefore, the chapter goes on to introduce a definition used by psychologists for the purpose of developing descriptions of thinking which can inform the teaching of thinking and problem solving. This definition and a simple but valid description of thinking are explained and illustrated by examples which highlight the main points in a reader-friendly fashion. In the last part of the chapter there is a discussion of the adequacy of the definition offered of a 'problem'. Finally, the notion that efficient learning is an instance of problem solving is discussed.

What about intelligence?

It might be argued that the many entrants to vocational programmes who have poor school achievements are simply not bright enough to learn how to cope with tasks other than the more routine ones. Poor achievement is often interpreted as a reflection of low 'intelligence, in the sense of having poor 'hard wiring', which sets a ceiling on achievement. However, this view of intelligence and the evidence which supported it have been seriously undermined in the last twenty years. There is now good evidence that intelligence in the sense of efficient thinking can be taught. In Japan, for example, the average teenage IQ, which is a frequently cited measure of thinking ability, has been raised to 117 compared with 100 in Britain. 'Although it is not doubted that under some vastly improved system of instruction mental ability may set an upper limit to individual learning attainment, the view that present levels are so constrained is largely discredited'.

If you cannot complete this task within four minutes you may wish to look at a list of mental operations at the end of this chapter which are sufficient to achieve a solution. When you

have learned these operations and produced a solution, are you more 'intelligent'? The approach in this book is based on the view now shared by many researchers, that 'intelligence' is learnable, in the sense that 'intelligence' consists of a repertoire of concepts and mental operations. Sequences of operations build up into procedures. A Scottish further education lecturer often uses the problem in Figure to introduce the idea that mental procedures to deal with problems in an electrical engineering module can be learned. The procedure for the MENSA task is mastered fairly easily even by students who have poor O-level qualifications, and students can learn to transfer it to other relevant tasks.

MENSA task two

If you would like to test your grasp of the procedure for dealing with the MENSA question, you might like to try a second version of the original problem, which has appeared in MENSA advertisements.

The solution is at the end of this chapter. You might like to try these two problems on friends. Find a friend who needs to be shown the procedure for the first problem, and present the second version without mentioning that the problems require similar mental operations. Research suggests that most people do not transfer a procedure to another relevant problem unless it is pointed out very explicitly that the problems are similar. Try the two problems again with another friend who needs to be shown the procedure for the first problem, but this time tell the friend that the procedure for solving the second problem is similar.

One of the reasons why the teaching thinking movement has not developed as rapidly in this country as in the United States is that certain traditional views of intelligence have been so widely disseminated through the media and in other ways that they are often not questioned by education and training practitioners. This book offers a description, based on current research on learning and thinking, which enables you to understand shortcomings in thinking and problem solving as

a temporary stage on a route to further development, and to understand why that development is highly susceptible to instruction. Without such a description it is difficult for you to understand shortcomings other than in terms of irreversible limitations of learners' cognitive equipment. Unless you are provided with a reasonably detailed and accurate description of the mental processes which underlie the problem-solving processes which you are being exhorted to promote, you can hardly be expected to achieve much success in helping learners to think efficiently.

What is a problem

The introduction of 'core skills' into NVQs reflects employers' demands for efficient occupational problem solving and the growing evidence that this competence can be taught. One of these core skills is problem solving, which is thinking in relation to some task whose solution is not immediately obvious to the task performer. Psychologists have been investigating 'problem solving' for most of this century. The essence of definitions in cognitive research is that a problem exists when:

you want something and do not know immediately what series of mental operations you can use to get it.

In modern societies, problems, as defined above, arise frequently not only in high-level jobs but at all occupational levels. The above description allows a task to be a problem for one person but not for another who has previously encountered that task. The following description is taken from a novel where a professor is trying to use a typewriter. This is again consistent with our everyday experience that even people who are regarded as 'intelligent' often have trouble with simple but new tasks.

I'd no idea a typewriter was such a complicated beast. It took a good ten minutes to find the little catch that lets the thing loose. And even when the roller was moving freely, I had enormous difficulty feeding the paper in and winding it up straight.

There is extensive evidence that most people are not good at dealing with tasks they have not previously encountered. For example, try the following tasks.

The none-dot problem

Draw four straight lines (without raising your pencil from the paper) which will pass through all nine dots.

The selection task

You are shown a panel four cards (a), (b), (c) and (d) together with the following instructions:

Which of the hidden parts of these cards do you need to see in order to answer the following question decisively?

For these cards is it true that if there is a circle on the left there is a circle on the right? If you cannot produce the answer within ten minutes you should turn to the solution at the end of the chapter.

Problems with problems solving at work

In the following examples the problems were minor ones, in that the tasks deviated only slightly from their routine versions, but failure to deal with them has significant effects on the organisation's goals. They are presented to illustrate further the definition of 'problem' on page 15 and to introduce a way of describing what is involved in solving problems. They are all reports of real situations reported by vocational trainers and help to explain the current concern with core skills in the NVQ system. The examples are intended to emphasise that problem solving is required at all levels of work and that it has to be learned. There is extensive evidence that the gap between understanding what has to be done in relation to a task and actually doing it is often seriously underestimated. The need for practice in learning practical skills seems to be almost universally recognised, whereas it is often almost overlooked in the case of intellectual skill.

Some illustrations of the definition of 'problem'

A new eighteen-year-old typist who had good academic achievements as well as a secretarial qualification was given a hand-written letter to type which was to include the words 'European Social Fund'. As this was referred to frequently in the organisation's correspondence, the writer had abbreviated it to E...S...F... The letter was presented for signature with European Social Fund typed as it had been written - E...S...F... The writer of the letter explained that while abbreviations were used to save time they were usually typed in full, and she wrote at the bottom of the letter 'European Social Fund'. The letter was altered and presented again for signature. This time 'European Social Fund' was indeed typed in full - but at the bottom of the letter with the abbreviated E...S...F... still appearing in the body of the letter.

In this example the typist, who was very eager to do well, clearly wanted to produce a mailable letter. Her failure to produce one suggests that she did not know that certain elementary mental operations were necessary, such as generating appropriate questions to herself; for example, during my training, what kind of changes did I have to make? How can I find out what these abbreviations stand for? And later when making the alteration: does this fit in with my previous experience of typing letters?

The task faced by the typist also illustrates the point that the description given of the term 'problem' allows a task to be a problem for one person, but not for another who has previously encountered it. Experienced typists are assumed by the error reported above in carrying out what seems to them a trivial task.

The next example emphasises this point, that whether a task can be classified as a problem or a routine task depends on the state of knowledge of the problem solver.

Your current wage is 121 a week, which includes a 10 per cent pay rise you have just received. What was your wage before you received this 10 per cent pay rise?

If you were unable to produce the correct answer you will be better able to appreciate why the employees in the

remaining examples made errors. You are likely to find the correct answer if you ask yourself the questions, 'Have I come across a similar problem - if so, what procedure did I use? If not, was the previous wage more or less? What percentage of the previous wage is 121? (121 is 110 per cent of the previous wage.) Can I write out this information in the form of an equation?

You may now have converted the problem into a task for which there is a routine procedure. If you do not know this procedure you can look it up in a basic mathematics book.

In a coffee bar a customer asked the waitress for black coffee with cold milk. In this coffee bar it was usual to serve coffee which had been made up with hot milk. The waitress served black coffee with two ice cubes in it but no milk. As in the first example, this waitress seems to have had no awareness that she should have been generating appropriate questions to herself, such as:

Is this request different from the standard order?

What feature is different? (temperature of milk)

What effect on the coffee is the customer trying to achieve? (flavour)

Is cold milk available? (If not) are there alternative ways of achieving the effect wanted by the customer?

By means of questions like these learners manipulate and transform their existing knowledge in order to solve problems. Such questions are described as mental operations. A sequence of mental operations is described as a mental procedure. What has to be learned can therefore be described in terms of mental operations and procedures.

You might be unconvinced that it is necessary to learn to generate questions in order to deal with a task such as the above. Whether you describe a task as routine or as a problem depends on the gap between the mental procedures - namely, sequences of mental operations known by the task performer -

and the procedures required for the successful solution of the task. A person can be a good problem solver by learning a large repertoire of mental operations organised into procedures, and by learning to manipulate these when new tasks are encountered. Manipulation involves, for example, combining parts from different sequences of mental operations to generate the new sequences required for a particular task. In the MENSA task, you are combining questions which seek out the parts of the problem which have most information with questions which eliminate one of two pieces of information when a decision has to be made about which bit should fill a particular slot. Most adults would immediately produce the answer for the following arithmetic task, whereas many six-year-olds would need to be taught the mental operations listed below:

Jason has 9 sweets and he gives 3 of these sweets away to Andrew. How many sweets does Jason now have? In order to produce the correct answer, young children have to engage in the mental operation of asking themselves whether this is an 'adding' or 'taking away' task and, having classified it as 'taking away', to engage in the mental operations of asking questions such as the following:

Is one number larger than the other? (Yes)

Do I start with the larger or smaller number? (The larger one: 9)

Do I go backwards or forwards from 9? (Backwards)

How many times do I go backwards? (3 times)

What number am I at now? (6)

The manipulation of knowledge to solve this problem is simple, but it is not in its essentials different from many problems tackled in occupational life. Consciousness that mental operations are used in problem solving seems to be one of the necessary conditions for transfer. Interrogation of your own knowledge is a significant component of problem-solving skill, but learning to ask others the right questions is also

important. In the following activity, asking questions which yield the maximum relevant information is of great practical significance.

A bomb threat

Imagine that you are working in a large organisation and that one day the telephone rings and a voice tells you that a bomb has been placed in your organisation's premises.

List about six questions which would extract the maximum useful information from the caller. Pay particular attention to prioritising the questions with those at the end of the chapter.

The following are just a few of the mental operations which have been identified by many psychologists as contributing to efficient thinking:

- generate alternative courses of action;
- identify future consequences of proposed courses of action;
- describe advantages and disadvantages of courses of action;
- recall similar problems and actions taken and generalise these to the current problem;
- find a starting point in a problem which allows you to move forward;
- check solutions against facts;
- look for features of a problem which reminded you of a problem previously tackled successfully.

As noted earlier, these operations often take the form of questions to yourself; for example, what are the advantages or disadvantages? Can you recall similar problems?

The following activity is intended to raise your awareness of the mental operations you use every day.

Questions to solve a work problem

Think of a problem you have encountered at work recently. Which of the above mental operations did you use, if any, in tackling the problem?

Decision making, organising, prioritising and planning are familiar examples of mental procedures which they can select and recall and adapt with little or no conscious effort, building new procedures by putting together parts of existing ones. Consciousness of the need to search for a procedure is an early signal that a task to be carried out is not routine one but a problem.

It should be emphasised at this point that there are usually several mental procedures which would produce a solution to any particular problem. It is not implied at any point in this book that there is only one correct procedure. What is being argued is that, if learners do not know any procedures or cannot put together a procedure for a problem, it is in their interest that they should be taught a procedure. This is intended to be a starting point for learners, a first introduction to the possibility that they can learn to construct such procedures for themselves and that, as their repertoire of procedures grows, they will be able to take parts from various procedures and combine them to create new procedures of their own.

It is also important for you to remember that, in teaching problem solving, the emphasis is on teaching mental operations and procedures as well as teaching behaviours. The following example helps to clarify distinction.

A neighbour has the problem that she has difficulty in starting her elderly car, even although the car has been recently serviced and is in good running order.

You have found that you can start the car first time by adopting the following behaviours which could be taught to your neighbour:

apply maximum choke;

- depress clutch fully;
- depress accelerator fully and release slowly;
- depress accelerator gently and turn ignition key.

Learning these behaviours would not equip the driver with any competence which is transferable to other problems with cars. A problem-solving approach would involve you in thinking about the information this driver needs to understand the problem, teaching the information and then asking her to suggest some useful questions which would point the way to a solution. If this fails, in your role as tutor you could say, 'I would ask myself what could be done to take some of the load off the engine parts' and then ask the driver to suggest how this could be done.

A word about automatisisation of mental procedures

Once people become efficient at using mental operations which are sufficient to deal with various types of task, these sequences of operations fade from their consciousness until they are no longer aware of using them. Psychologists would describe these mental operations as 'automised' or 'enfolded'.

'Experts' are people who have automised or enfolded certain mental operations. Automatisisation is necessary if you are to deal efficiently with all the tasks which confront you at work and in everyday life. If you had to be conscious of all the sequences of mental operations you use, you could not perform tasks at the speed expected by employers, or at a speed which would enable you to fit in the huge number of things that you expect to be able to do in the course of pursuing a happy and interesting life. In the other hand, this efficiency has a cost - it makes it difficult for you to make your mental operations visible to learners when you are coaching them. If you do not reveal to learners the most efficient operations for a task, they are left to try and discover them for themselves. Learners vary in their ability to discover the most rational sequence of mental operations for a task which is new to them (that is, a problem). A few learners discover most of the appropriate operations while others discover some of the

operations, but many discover very few of them. A much larger percentage of school leavers might achieve the entrance qualifications for higher education if thinking processes were taught effectively.

Thus teaching problem solving involves an instructional approach which targets both the learning of information and its application in solving problems.

If you produced a correct solution on the first trial of the nine-dot problem you have probably automatised or enforced the appropriate mental operations. By generating this question the solution becomes fairly clear.

Interactions between information and mental operations

Although the emphasis so far has been on mental operations that efficient problem solving; requires both mental operations/procedures and task-relevant information. problem solving involves an interrogation of the information which you hold in memory or which can be found by using reference books and other resources. At this point it is useful to think of knowledge as having two aspects.

Information: all the ideas which you are conscious of knowing. These ideas are often referred to as concepts, which are connected to form propositions; e.g., traffic lights give instructions to motorists. These instructions are backed by legal sanctions.

Mental operations which are built up into *mental procedures*. A question to oneself is an example of a mental operation, and the sequences of questions used would be an example of the operations being built into procedures.

For example, are the traffic lights at green?

If yes: proceed with caution.

If no: are they at red?

If yes: then stop.

You solve problems when you have or can construct adequate information and mental procedures. There is a constant interaction between these two aspects of memory

which have been described above as information and procedures. Suppose you wanted to buy a used diesel car. You want to avoid one which has been used as a taxi but are not confident about eliciting an honest answer as to the car's origins. You need a mental procedure which would begin with a self-question such as, what features does a taxi have which are not features of a car in normal use? This question would direct a memory search which might result in retrieval of information such as plates showing taxi licence information. The procedure might continue with, where are they usually fixed? In response to which you might retrieve 'bumpers'. This might lead to your concluding that small holes in the bumper would raise suspicion that the car had been used as a taxi. The interplay between mental procedures and information can be traced in more complex tasks.

Suppose you have a double garage with two doors but no internal partition and you have the problem that you find difficulty in driving the car into the garage without scraping it against the door post. You might start to tackle this problem using the mental operation of generating alternative solutions. Having asked yourself this question about alternatives, you might go into your long-term memory store and come up with:

- 1 practice driving into tight spaces;
- 2 remove the two doors and replace with one door.

Another mental operation would be evaluating these solutions by asking yourself about the advantages or disadvantages of each. In order to do this you need to use the mental operation of generating relevant factors. In evaluating the solution of changing the doors you might retrieve from your long-term memory store that cost is a factor. In order to use the mental operation of evaluating the cost, you need to generate components of cost. Until you can produce the information to answer this question, you cannot proceed further in solving the problem.

You might retrieve from memory the information that

components of cost would include removal of the two single doors and the cost of a new double door. However, if you did not also retrieve or find out information about other components of cost such as insertion of a supporting beam, your answer to the 'evaluating the cost' question and the eventual solution would be flawed.

Try the following activity. Its purpose is to illustrate further the relationship discussed above between mental operations and task relevant information.

The thinking DIY

Suppose you want to put up book shelves, approximately 6 feet tall by 8 feet wide, in your lounge:

- Write questions which you might ask yourself as part of the planning for this task;
- Find someone who is a trained carpenter or an experienced DIY enthusiast and ask him or her to generate appropriate questions for this task;
- Compare your list of questions with those of the more expert person in (2) above;

(If you do not have a DIY friend, you will find an 'expert' list at the end of this chapter.)

You will have noticed that the questions you ask yourself are dependent to some extent on the information you have stored in memory, while, as already noted, some questions are useful in almost every situation. For example, 'Have I come across a problem like this before? How does this problem differ from previous similar ones? Are those differences significant?' Others are quite specific to the task and depend on subject knowledge. The joiner's questions will be based on information about woods, fixing materials and so on. If you do not know that different types of wood are more likely to bend or less likely to bend under the weight of books, you cannot generate the likely to bend under the weight of books, you cannot generate the questions 'What type of wood will hold up under the weight of the books?' Without expert

information you cannot generate some questions, let alone answer them. In order to be effective, your knowledge of a subject must be linked to your knowledge of how to apply the subject.

Clearly, this view of the content of human memory has some resemblance to descriptions of how computers work. Artificial Intelligence has had a very strong influence on theorising about thinking and its manifestation in problem solving. One useful way of describing the relationship between Artificial Intelligence and theories of problem solving is to say that Artificial Intelligence is a metaphor for thinking about thinking.

Vocational Education and Training

There are three categories of centrally planned and structured training programmes: (1) Craftmen Training Programmes; (2) Apprenticeship Training Programmes; and (3) Advanced Vocational Training Programmes.

Craftsmen training programmes

Under this scheme, training is provided in 32 engineering trades and 23 non-engineering trades in 830 Industrial Training Institutes (I.T.Is.) and Centres throughout the country. The institutions are affiliated to the National Council for Vocational Training (N.C.V.T). The total number of seats available for training are 1,91,664. The period of training varies from one year to two years. The minimum educational qualification for admission varies from two classes below matriculation to pass in matriculation or equivalent. N.C.V.T. awards certificates to trainees after they complete the course successfully. The courses are organised at the state level in accordance with the curricula, norms and standards prescribed by the National Council for Vocational Training.

Apprenticeship training programmes

Under the Apprentices Act of 1961, the employers covered under the Act are obliged to take a certain number of apprentices as per the specified ratio and provide training

facilities in accordance with the prescribed curricular in various designated trades. There are 136 designated trades. 217 industries of various categories have been specified to train apprentices, the number of apprentices undergoing training varies from one year to four years depending upon the designated trade. The minimum educational qualification for entering the trade varies from a pass in Std. V to H.S.C. At the end of training, the apprentices are trade tested by N.C.V.T. and those successful are awarded the National Apprenticeship Certificate (N.A.C). Both these awards are recognised as National Certificate awards, N.A.C. being a higher level award.

Advanced vocational training programmes

These programmes were introduced in 1977 by Central and State Governments in collaboration with the United Nations Development Programmes and the International Labour Organisation. They have been structured to meet the demands of highly skilled personnel for the modern industry. The advanced training given extends beyond the range attainable under Craftsmen Training and Apprenticeship Training programmes. The scheme has been introduced in the Central Training Institutes (C.T.Is), Advanced Training Institutes and selected I.T.I. in various States.

State level certificate programmes

Certificate Level course of varying types are conducted in States and Union Territories. They are conducted in several types of institutions depending upon the nature and contents of courses and the organisation structures as determined and operated by the administrations concerned. Administered by States and Union Territories, they are governed by regulations, norms and standards set by the individual administrative units or agencies. As such, the programmes suffer from lack of uniformity and quality of instruction.

The available information and data in respect of certificate courses are not up-to-date or accurate enough to present a true picture of national educational conducted

in institutions at the level of States and Union Territories. Course duration varies from six months to two years.

This kind of vocational education is basically organised for preparing semi-skilled craftsman, operators and other workers needed for occupations requiring knowledge and skills of an order next below that for skilled workers.

Semi-skilled personnel prepared in this manner can reach the next higher stage through the process of further education and/or training in institutions for in places for work.

High school level vocational courses

Facilities exist in Technical High Schools, Multi-Purpose High Schools, Post-Basic Schools, Agricultural High Schools and Junior Technical Schools for education in technical and vocational subjects alongwith general academic subjects. These schools or centres prepare students for courses leading to S.S.C. examination conducted by the respective State Boards. The duration of education in technical and vocational subjects is mostly three years. The vocational or technical bias is limited in scope and application. Such schools are dual-purpose institutions - with higher education preparatory and vocational objectives. Vocationalisation is not of such an order as to * the training as terminal. However, vocational treatment can be rated as the work experience at its best.

Through not organised on the lines of the comprehensive or common system of school education as in U.S.A., U.K., Germany and Japan, such institutions do symbolise the principle that vocational educational education should not be considered as an entity by itself but as an integral part of the total education process. We need more institutions of this kind in the country, as rightly stressed by the Kothari Commission.

Higher secondary level vocational courses

So far, West Bengal, Karnataka, Gujarat, Andhra Pradesh,

10+2 stage of secondary education. The general observations and recommendations are :

By and large, the stages have not followed the guidelines of the National Document in respect of vocationalisation of higher secondary education; the objectives of linking education with productivity and manpower requirement were completely ignored by the stages; each state seems to have its own brand of vocationalisation ; absence of efforts to plan for further education and training allowing students of vocational stream to update and upgrade knowledge and skills; vocational surveys of areas should be undertaken before the programmes are launched; there should not be rigid streaming of courses; the duration of vocational courses should normally be of two years; pre-service and in-service education for vocational teachers should be organised; vocationalised higher secondary education must be distinguished from technical/professional educational imparted in polytechnics where certain levels of knowledge and skills as technician are aimed at the attained and is, thus, education in the broader sense of the term.

The position in respect of state-sponsored and organised vocational education courses, known as certificate courses, the awards of which are conferred by agencies of bodies established and controlled by the respective state administration, does not reflect a satisfying picture. These state-managed courses are basically devised and operated for students pursuing school education as well as for those who have left school education as a means to preparation for semiskilled jobs mostly, and for skilled jobs to some extent. They are also organised to meet the needs of young persons and adults inclined in take to self-employment. However, by and large, their structures, contents and awards do not fit into any recognised pattern on all-India basis. That apart, they are not organised and administered on the basis of a unified system of education within the states themselves. The problem is compounded because of absence of integration and co-ordination between several government departments and

agencies administering multi-pattern, multi-level vocational education programmes with conflict award values. As a consequence, uniformity and standardisation in such matters as administrative control, educational norms and standards, grant-in-aid, examinations and awards - are not there in the system. Furthermore, the institutional instruction suffers from inadequate financial and physical support, out-dated and ineffective curriculum and sub-standard instructional methodology.

Undoubtedly for a country of India's size and diversity, it may not be feasible to have near identity of uniformity in matter underlying education system, particularly when education is the responsibility of the state government. And yet from the objective of bringing about a modicum of reasonable uniformity in aspects such as quality of instruction and award and attainment of standards in the face of problems of inter-region and inter-state migration and recognition of awards, the time has come to review the present position and evolve and acceptable co-ordinated framework of policies and strategies governing certificate type of vocational education within the states without any further delay and all over the country in the near future. This must become a matter of serious concern of the Central and State Governments.

The Craftsmen Training Scheme (CTS) and the Apprentice Training Scheme (ATS) have also come in for criticism of late. Syllabi and training contents do not meet the present day needs; equipment is either worn out or obsolete; inadequate staff acquisition and training; institutions not periodically evaluated; uncontrolled growth of ill-equipped privately managed institutions - these are the principal shortcomings and limitations of the CTS programmes to-day. A lot has been said about reforming the system. Recently, the Committee Experts, appointed by the Central Government on 25th April 1978, went into the full question of reviewing the training programmes. The Committee has suggested a number of remedial measures for improving the quality of training and modernising the system as a whole.

Restructuring of I.T.I. courses in accordance with the Committee's recommendations is under process.

The Abdul Qadir Committee also examined in depth the quality of Apprenticeship Training. Among other things, the Committee observed that : (1) shop-floor training has not been found satisfactory; (2) inadequate staff provided by establishments for organising and regulating shop-floor training; (3) trainees are not rotated regularly among the different production of work units. The Committee recommended that the ratio of apprentices to workers must be considered as ceiling and the actual intake of apprentices in each establishment should depend on the skilled personnel required in the area concerned. The Committee, taking an overall view of both CTS and ATS, recommended the enactment of a comprehensive Vocational Training Law to regulate and control programmes of training and matter connected therewith. The Committee, accordingly, recommended the amending of the present Apprentices Act suitably. The Central Government has prepared a draft of the proposed law based on Committee's recommendation for circulation to eliciting concurrence of States and Union Territories. The fate of this move of the Central Government is not known. Perhaps the proposal may not be pursued consequent upon the Ministry of Education having already established the All-India Board of Vocational Education.

This Board is constituted to function under the aegis of the All-India Council for Technical Education. It will thus be a non-statutory body just like any other governmental advisory or co-ordinating agency. This part, the Board's functioning is restricted in as much as it will evolve programmes of action on an all-India basis for vocational education after Std. X mostly. The range of operation of the Board is thus confined to an area of limited scope and application, and that too, without any mandatory powers. Further the Board is not constituted on the lines proposed by the Abdul Qadir Committee. It should have been most appropriate to have moved for a comprehensive enactment embracing all major forms and patterns of

vocational education and training considered as an integral part of skilled manpower development and training on an all-India basis.

There are several good models of public laws available for study and reference. Some of these laws are discussed in detail in Chapter 10 of this book. It may not be an overstatement to emphasise here that the kind of growth and development that has marked the progress of vocational education and training system in countries like the U.K., and U.S.A., Germany, Japan, Ireland and Singapore is, not doubt because of the statutory provisions embodied in laws enacted to provide full opportunities and facilities to people to pursue vocational education and training organised on a systematic, uniform and effective basis.

In the final analysis, the critical factors that have inhibited orderly growth and progress of vocational education and training programmes in our country remain to be-

Absence of clear understanding of the concepts, issues and purposes of vocational education and training.

Lack of commitment, creative thinking, interest and resourcefulness on the part of planners, administrators and educators concerned with vocational education and training.

Unawareness of an insensitivity to the changing needs of young people and adults in terms of opportunities and facilities where by young people and adults, if they so desire, learn that different crafts, trades and occupational knowledge and skills, and thereby fit themselves for better performance of life's duties.

Lack of national policy frame work to encourage, plan, establish, administer, regulate and keep under review a systematically organised and integrated and co-ordinated system of vocational education and training.

Absence of a Central funding system for stimulating and assisting the States and Union Territories in making adequate provisions for the programmes.

Absence of a well-built system of further education for allowing students of vocational streams to continue their technical or professional education when-ever they need it.

Absence of a comprehensive Central law containing provisions for the organisation, administration, control and review of vocational education and training programmes on national, state and local levels.

Vocational Curriculum and the Challenge to Teacher Preparation

Changes to modern industrial societies have often been described as moving from a 'Fordist' to a 'post-Fordist' stage of development. The process of change effects not only technology and economic relations but also consumption patterns and life style. Fordism can be seen as a set of compromises put into place in the early years of this century, regulating mass production and mass consumption by means of Keynesian economies and the welfare state. These compromises began to break down politically after 1968 when mass consumerism was put into question, economically after the oil crisis of 1973 and culturally at around the same time as 'post-modernist' styles began to emerge.

In the world economy, the countries of the Pacific Rim are emerging while European countries, and the United Kingdom in particular, have lost their former hegemony and are struggling to maintain their position in the competition between industrialised nations. To maintain competitiveness, countries see it as crucial to boost productivity and lower unit costs, as well as exploiting to the full technological and scientific research and development. Investment in information technology, both in capital and human terms, has been decisive to this respect.

The term 'post-Fordism' is much used but its meanings

are contested. Post-Fordism represents many strands of thought and, like any new paradigm has both a left and a right wing. Some writers, notably Piore & Sabel use an overlapping concept: 'flexible specialisation'. There is doubt as to how much is new in the post-Fordist model, but even those who advocate the idea agree that, like Fordism, it cannot be uniformly found throughout all sectors of society. For the purposes of this paper it will be assumed that at least some features of post-Fordism restricting of many occupations. However, in other sectors a neo-Fordism is being constructed, which adapts to its own ends some ideas usually thought to be characteristic of post-Fordism. Lipietz, for example, argues that the ending of Fordism has resulted in 'liberal productivism'.

Most writers on post Fordism content that new technologies and more flexible work practices demand an education and training system that can increase levels of skills. They describe the labour market as becoming divided into a core and a periphery. The core should consist of educated and innovative skilled workers who can work cooperatively, show initiative, be adaptable, enjoy a 'high trust relationship' and work in a less hierarchical structure. If this is happening to a certain extent, there are also countervailing tendencies, in particular the job insecurity which now affects white-collar as well as manual workers and brings some of them into peripheral work. This white-collar periphery is nevertheless very dependent on educational capital. The implication of post-Fordist changes for the United Kingdom is that skills levels will need to increase rapidly, to accommodate new technology and new working practices, as well as to compete with other countries, notably Pacific Rim countries who are rapidly developing their education and training systems.

Post-fordism and education

Most writers who have tried to link post-Fordism with education have done so in a generalized and unspecific manner. Where more specific claims have been made, they tend to contain anachronisms. For example, Hickox & Moore

describe 'progressive education' as post-Fordism, despite its origins in the early 20th century. Similarly, Rustin tables 'teacher-based assessment' as post-Fordism although it became fashionable in the United Kingdom at least as early as the 1960s.

Avid is critical of any attempt to base education and training on a post-Fordism analysis. He argues that post-Fordism is still capitalism and therefore has limited radical potential. Indeed he thinks it may even these relations can easily lose their radicalism. "This overlooks the fact that the vocational curriculum has rarely been seen as a radical force in the way that the school curriculum or higher education have been claimed for radicalism. For example, the left-wing lecturers associated with the NATFHE General Studies Section have argued for general studies in further education (FE) colleges as an antidote to the conservatism they see in vocational courses.

Writers on Fordism advocate a close link between formal education and productive work, for workers at all levels. Some divisions have been undoubtedly broken down, but insufficient attention has yet been paid as to how. Let us see what is actually happening in the curriculum.

The vocational curriculum and its meaning

Fordist labour processes were founded on the distinction between mental and manual labour. This distinction both derives from and generates an epistemology dividing skill and knowledge, giving a series of related distinctions shown in the Table.

| | |
|-------------|------------|
| Knowledge | Skill |
| Mental | Manual |
| Academic | Vocational |
| Theoretical | Practical |
| Abstract | Concrete. |

Table Parallel pairs of terms

These pairs never corresponded more than loosely, but

are now being broken up and re-formed in new sets of relations, redefining the meaning of 'vocational'. This term has already a complex history. Originating together with the idea of profession having a 'vocation' (a 'calling') meant more than just possessing the technical skills associated with being, for example, a doctor; it entailed a moral perspective, one of an awareness and obligation to the wider implications of one's work; social, economic, aesthetic, etc. Inge Bates explains that the word 'vocation' had a religious significance " ... to the experience of being called by God to a particular way of life and thus associated with spiritual satisfaction, commitment and individual responsibility. This moral perspective was traditionally found in apprenticeship, where concern was not just about acquiring high levels of skill in the particular trade or craft but also about developing codes of conduct and upholding the morality of the trade.

The particular relationships in the workplace today have one set of values, which for Marxist writers are in conflict with the intrinsic value of work. Among these writers, Gramsci was particularly concerned to connect work with culture.

For work is the specific mode by which man actively participates in natural life in order to transform and socialise it more deeply and extensively.

Gramsci was suspicious of education based on the ideas of Rousseau where learning was hinged around interaction with Nature. Rather, it was through the focus of work, i.e. productive labour, that real learning should take place. The importance of 'traditional' disciplines (subjects) being used in context with the real world of work was exemplified by the rigorous demands of the education of the professions who were an intellectual elite. He was concerned to create working class 'organic intellectuals' who could compete with the hegemonic class. What is more, Gramsci believed that a common curriculum and educational system should be the experience of all young people, partly as a way of combating social (class) divisions. Further, Gramsci was aware of the technological developments taking place in the modernising

economy and the consequent changes in workers' labour processes. The move to greater automation was seen as a potentially positive development in that it would eliminate much boring, monotonous and soul destroying manual work and replace it with new more cerebral work that would require a greater intellectual input by workers.

Entwistle in studying Gramsci characterises the need for a second kind of intellectual thus:

...the technological-scientific nexus of the new industrialism generates that second kind of intellectual whose intellectualism is organic to the productive process itself. But if the productive process is to serve humanistic and social ends, the new technical-scientific organic intellectual requires, above all, a component of his education to be in historical humanism.

What is implied here is that vocational study and training should go hand in hand with academic (or general) education and that each is mutually beneficial to the other. This would certainly be a requirement for workers in a post-Fordist economy, which would put a premium on adaptability, innovation and self-management. It would also require the fusion of differing forms of knowledge which in turn create 'new knowledge'; knowledge that is formed out of new experiences around work.

Taking the argument a stage further, a particular form of integration is being hinted at here. That is, intellectual meaning derived from academic study and academic knowledge, is situated within a particular vocational context. In other words the academic subject must accommodate and de-reify and in so doing will have a qualitative changing influence on the nature of the vocational.

Gramsci's thoughts on such matters were partly influenced by the ideas of John Dewey whose theories of education were being expounded in the USA in the early years of the 20th century partly as a reaction to the Social Efficiency advocates of the time. Dewey argued for a new kind of

'industrial education' which would have the aim of cultivating 'industrial intelligence'. This notion has similarly with contemporary debates about the need to have 'technological literacy' built into curricula. Also, such a curriculum should be for all, as Dewey was arguing against those who wished to developing training in isolation from general education, a divided system partly based on 'performance' based curriculum which later developed into CBET.

Epistemology of skill

The division between mental and manual labour is based on an epistemology and is not merely technical. Although the traditional divisions between mental and manual occupations are in many instances disappearing as a result of changing technology, there is nonetheless still an ideological pecking order of knowledge, skills, training, qualifications and occupations. Ainley uses some of the ideas of Polanyi, to grapple with this problematic split. He uses Polanyi's examples of riding a bicycle or swimming.

I can say that I know how to ride a bicycle or how to swim but this does not mean that I can tell how I manage to keep my balance or stay afloat. Indeed, if it were possible to become aware of 'the co-ordination of elementary acts' that make up the skill, 'its performance would be paralysed', 'for when we focus our attention wholly on a particular, we destroy its meaning' as part of the whole. There are therefore two kinds of knowing that together contribute to knowledge of anything: 'knowing by attending to' and 'knowing by relying on'. The former may be articulated and conscious but it relies on the latter, tacit knowledge, inarticulate and unconscious though it is. It is Polanyi's argument that all knowledge, including the discoveries of science expressed in the most abstract formulas, 'ultimately... has the structure of tacit knowledges.

Therefore, the distinction between the superior position of mental over manual skill and knowledge is an arbitrary one. It "... is merely a social preference for the skilful manipulation of symbols as a more respectable activity than the skilful

manipulation of objects". In fact the demands of emerging 'new' labour processes are ones that require a combination of both mental and manual skills, skills and knowledge that can span both the conception and execution of a particular process and appreciating its connection with other processes.

Ainley also examines how skill determines social position. Skill has been an important determinant of one's wage/salary position as well as matters such as conditions of service and job security. It is also used in the United Kingdom's classification of social class. Very often these assigned categories have less to do with technical reality and more to do with culture or particular power relationships. One example might be a labourer in the construction industry. Although classified a wide variety of separate semi-skilled tasks on a site. A lot of the work will involve a degree of conception such as setting out and levelling in, for example, drain-laying, using various measuring instruments and so on. The main distinction is that there is no recognised form of training or certification for such work.

Qualification reform

There is growing awareness and support for the view that the present split between vocational and academic education is undesirable. Arguments that the economy needs a new type of labour force coincide with a wish to reduce social divisions. In England and Wales there is growing consensus that GCE A Levels need reforming as at present they are too narrow. This has recently been strongly expressed by private and state secondary school heads. However, there are different views as to how far A Levels and their vocational 'equivalents'-General National Vocational Qualifications, should be brought together. Some would like to see a complete merger. Others want to see a rationalised tracked system either as a definitive aim or as a basis for a more organic process of unification.

It would be useful to examine some of the features of a curriculum which might develop a 'new relationship' between

the academic and the vocational. One such attempt has been by Spours & Young who looked at some vocational aspects of academic learning. Concentrating on the interface between school and work they raised important epistemological questions for a future post-16 curriculum. For these writers "academic subject represent both an organized form of knowledge and an existing order". Also, academic disciplines have two major assets; bodies of knowledge and methods of enquiry.

NVQs versus GNVQs

NVQs and GNVQs are by far the most important developments in English and Welsh vocational education in recent years. They are an intervention by government in a field which had hitherto been left to develop without any coherence or central direction. Although implemented throughout the same authority, the National Council for Vocational Qualifications, they are beginning to pull vocational education in opposite directions. This can only be understood if it is realised that GNVQ were a reaction to criticisms of NVQs. The original Review of Vocational Qualifications foresaw the bringing of all vocational courses into the NVQ system. Criticisms immediately emerged, centring on the issue of 'breadth'. This was to be resolved by 'generic NVQ units', which did not materialise. The 'breadth' argument was particularly potent when related to the education of 16-19 year olds and NCVQ conceded that something 'more suitable' for that age group was needed. Colleges had found NVQs difficult to deliver to full-time students because of the requirements to assess students in the workplace or realistic simulation. The further development of GNVQ has been marked by the PCVQ constantly dragging the courses back to the pure NVQ model, whenever other agencies try to make them more compatible with what is happening elsewhere in the FE curriculum.

At this point we can ask whether NVQs 'correspond' to Fordism or post-Fordism. Firstly, we can note that their introduction as deskilled some courses, e.g. construction craft

courses at Level 2. Moreover, they are based on a 'functional analysis' of jobs which breaks down job tasks minutely in a 'functional analysis' of jobs which breaks down job tasks minutely in a way which recalls and actually has its genesis in Taylorism. This points to a link with Fordism which in fact is stronger than mere 'correspondence'. NVQs are an element in the construction of a neo-Fordism found in its purest form in the new service sector (retailing, catering), but increasingly in the semi-privatised public sector. Employers in these sectors draw on post-Fordist ideas of flexibility only to incorporate them into an alienated and socially divided labour process, based on short-termism, low skills, low trust and low quality. NVQs are to credentialise low skilled jobs, which gives the illusion of upgrading them. For example an NVQ may be achieved in 'cleaning scient', but without the cleaner receiving any training, let alone job enrichment.

In a post-Fordist society with a strong correspondence between education and the economy some undesirable features could emerge, not dissimilar to some that exist at the moment. This would be the case if there were a core of highly educated and skilled workers and a periphery of low or unskilled workers with minimal education. The educational system to correspond with this would be highly divided and elitists.

Alongside this we see the development of a broader based, general vocational curriculum in the form of GNVQs. They are an attempt to rationalise and systematise already existing vocational education, and largely derive from the Business and Technology Education Council's (BTEC) diploma courses. Their (compulsory) core skills, are more tightly specified, and thus have to be addressed specifically by course teams. Further, GNVQs are less dependent on 'competence' ideology and as they are being developed and refined they are becoming quite different from NVQs. This means that GNVQs could 'correspond' with a more truly post-Fordist economy.

Challenges for the lecturer

A new kind of professionalism

The way both existing and future teachers are prepared for an enriched vocational curriculum could be central to such a curriculum's success. Further, by developing a new kind of working relationship between lecturers, a new understanding of the interrelations between academic subjects and vocational practice may be possible; new knowledge may be created. Through a mutual recognition of each other's specialisms, lecturers could be both interested and confident enough to 'climb into' the other subject area to see that contribution each can make, while still keeping their roots in their own specialisms.

An important political implication here is that most work is based on a division of labour and a labour process that tends to fragment knowledge, *i.e.*, that between conception and execution. Surely an important pre-requisite to 'challenge capitalist social relations' is to promote and develop a unified education system that equips workers with the necessary capacities to challenge and overcome such divisions.

One practical example is that of social science graduates' involvement in vocational courses. How might a social science perspective be of use to, say GNVQ Construction students who have little or no knowledge of social science concept? Many higher professional courses have had to grapple with similar issues; for example, most nurse training involves sociological and psychological studies; teachers' courses traditionally involved the sociology of education and so on. In fact it could be argued that sociology as a subject has benefited enormously by being included in specialist areas like education. The so-called 'new sociology of education' as characterised in the 1970s was probably responsible for not only increasing the popularity of sociology as a subject but also helped to transform and improve much of it, especially in the area of cultural analysis.

The possibilities for developing this new kind of

professionalism are severely hampered in England and Wales by the highly fragmented and incomplete nature of teacher preparation for the FE sector. Official figures suggest that approximately 60% of lecturers have teacher-training certification. However, this figure has been inflated by the entry into the sector of the sixth-form colleges, whose staff were until recently required by law to be qualified. Also worth nothing is that many of the qualified staff in FE have relatively low-level certificates, such as City & Guilds, 730, which is now recognised at NVQ Level 3. The more recently introduced Training and Development Lead Body (TDLB) NVQ units will not help either as they are not only very superficial in their substance and based on a competence model they are also mainly concerned with assessment, rather than more holistic teacher preparation.

Social and professional relationships between lecturers from different specialist backgrounds have often been difficult. The divisions between vocational departments and the general education department in an English college were described by Gleeson & Mardle, who found suspicion and lack of cooperation between the general studies staff and the vocational lecturers, often less well qualified academically but held in high esteem by their students because of their 'real' industrial experience. These relationships derive from a mismatch between a radically changed FE curriculum and the imperfect system of lecturer preparation which leads to the perpetuation of outdated practices.

The crisis in Fordism from the mid-1970s brought an end to the predominance of apprenticeship-derived day-release craft and technician courses within technical colleges. Their place was taken by full-time courses, which were academic, more general vocational or 'pre-vocational'. The arrival of 16-19 year olds in large numbers tended to erode the difference between further education and schooling. On the other hand, an adult population was also being attracted, sometimes to the same courses, sometimes to newly created provision. As Terry Hyland put it:

The pace of change in further and adult education in recent years has produced a fluid and uncertain post-school sector in which teachers are required to be flexible, critical, reflective and knowledgeable about a vast range of curricular and organisational matters.

National agreements between the lecturers' union and their employers made explicit the changing role of the lecturer. The various roles to be performed were specified precisely, which was new. Moreover, the list was a long one and touched on neighbouring professional roles, such as those of the counsellor or librarian. At the time of writing, a long-running national dispute in England and Wales hinges on a new concept of flexibility and has put into question the very purpose of post-16 education.

Lecturers have rarely been prepared for these new roles through the pattern of teacher preparation for the sector. Provision remains voluntary, underfunded, and dominated by short courses. Discussions of lecturers' professional practice concur that it is based on a particular view of expertise, which is incompatible with the changing curriculum. Gleeson & Mardle describe this as the 'culture of technism.'

... in our experience, most technical teachers not only perceive their primary objective as the provision of appropriately trained industrial personnel, but consider any deviation from that objective as rendering the activity of instruction as impossible task.

McAleer picks up from John's the concept of the 'academic model' to describe the way in which vocational teaching takes place in FE.

Traditional courses in FE, as in the rest of the education system, are based on the 'academic model'. The main concern of this model is knowledge, so that teacher and learner both regard their task primarily in terms of knowledge transfer.

According to John's the perceived status of FE teachers tends to be associated more with academic, technical, or

vocational qualifications as well as experience in industry, rather than teaching skills. McAleer describes these status acquisitions as 'educational capital'.

While we may wish to take issue with the idea of the FE curriculum being based on the 'academic model'. McAleer does make the interesting point that this model may be equally true for vocational teachers. In other words the vocational teacher, by virtue of possessing work-related vocational skills and experience, i.e. a form of educational capital, supposedly need not worry too much about style of delivery, because the knowledge and skills to be transmitted are of obvious beneficial relevance to the vocational student.

Lecturers beyond the vocational-academic divide

The introduction of GNVQ core skills brings into sharp relief issues of the problem of divisions between vocational and academic/general lecturers. It is only with the introduction of core skills as part of the new GNVQs that vocational lecturers, for the first time, are having to come to terms with being involved with teaching some general education. In order for a core skill area to be taught effectively it has to be situated and contextualised within the vocational area and consequently cooperate relationships will have to be formed between colleagues. This will need to include an elementary understanding of the vocational area by the Communication, Numeracy and IT lectures and a basic understanding and personal ability in the core skill by the vocational specialists.

A useful illustration of this point was made in a short article in *The Times Educational Supplement* where a discussion of delivery systems for GNVQ Application of Number quotes Dr. Jack Abramsky:

It is clearly demonstrated that students must demonstrate competence in application of number] in their own areas. You cannot accept GCSE results because the students must show they can do it within the context of their own course.

In a follow-up letter, in taking issue with the way he felt he was represented in the article, Abramsky made the following points:

I did say that it was reasonable to expect staff who deliver the GNVQ course in a particular programme area to be able to integrate, diagnose and assess relevant numerical and mathematical skills within an integrated framework relevant to that particular course, and that these same staff should have, at the very least, the same skills and knowledge that they expect from their students.

He is referring to all lecturers teaching on a GNVQ programme who are not mathematics specialists needing to have a level of proficiency similar to that required of students in the core skill. This should not be confused with, say, specialist mathematical skill and knowledge required on an engineering course, which would be taught by someone with a high standard of mathematical expertise. He concludes by stating:

The role of maths staff should therefore be seen as a dual support role: to help students overcome learning difficulties with mathematics and consolidate their skills profile, and to act as consultants to lecturers in a given programme area, to help generate ideas, and to help provide the necessary in-service training in diagnosis and assessment to give these same lecturers the confidence to implement Application of Number within their own course area.

This example illustrates well a particular kind of thinking about relationships between vocationalists and academics or generalists, in this case the mathematicians. It also illustrates the already changing role of the lecturer, in relationship to expertise and in relationship to colleagues outside his or her own field of expertise. All those involved in lecturer preparation will increasingly have to confront these changing circumstances.

Pre-Vocationalism and Schooling

The once secret garden of the curriculum has been manured, watered and artificially heated in the years since Callaghan's 'Great Debate', flowering with manifold pre-vocational blooms. The DES, the DTI and the MSC have No. one TVEI scheme is the same as another. TRIST in service funding has reached schools through a variety of LEA schemes. Employers and further education establishments have adopted a multiplicity of arrangement for one-and two-year versions of the YTS.

Diversity has not, however, obscured a broad based movement towards work-consciousness and teachers have been employment related education. LEA officers, inspectors and teacher have been as eager for vocational schemes as Loard Young. MSC or ESG money has been grasped for a succession of projects. Schools swifity introduced CGLI examinations as step towards the CPVE. Innovations as different as the GCSE and the YTS exhibit in varying degrees feature of the pre-vocational approach.

Pre-vocational education dates from Shirely William's 1977 Green Paper rather than Sir Keith Joseph's 1984 Sheffield blueprint and enjoys support from should be trained as self-sufficient competitors in business and industry, ready fight in world markets. Art and imaginations are perceived as leisure pursuits that can be funded only by business; economic

success is held to depend on manufacturing. Communications skill are valued as an essential instrument of manufacturing. Communications skills are valued as an luxury to be earned. Few realize that the Royal Shakespeare Company can match the export earning of many an engineering firm. Disinterred scholarship is presented as an effete, gentlemanly irrelevance, almost the cause of industrial decline.

The vocational argument depends on doubtful propositions and there are real risks in so partial a vision of the transforming power of knowledge. Since the days of Harold Wilson's white heat of the technological revolution' Politicians searched with increasing desperation for policies to restore the efficiency and competitiveness of British industry. Keynesian expansion and monetarist constraint have in turn failed to rescue the economy from the limitations of an exposed island, vulnerable and dependent on the goodwill of its trading partners. Unwilling or unable to reform British institutions, James Callaghan at Ruskin College Proposed an agenda for changing the attitudes of school children. His desire to promote a positive awareness of industry, work experience, school-industry links, enterprise and 'relevance' in the curriculum foreshadowed similar.

Conservation ideas. From 1979 a sharp rise in unemployment enabled ministers to allege that comprehensive schools have not produced sufficiently skillful workers for changing world conditions. An 'academic' curriculum became a scapegoat for economic failure.

Teachers were equally critical of traditional disciplines and methods. Schools despaired of some of their own efforts, aware that many children seemed alienated for an 'academic' curriculum. Schools Council projects sought alternatives to the didactic approach through the 1970s. Teachers, politicians and the public found themselves in agreement that 'something' needed to be done. Worries about education, industry and modern society at large converged and found a common expression in a new political/educational agenda for changing people and attitudes rather than institutions or

policies. There was silence about public investment or devaluation. Multi-cultural education and 'young enterprise' were offered as solutions to inner city problems such as black unemployment.

An attractive, liberal-sounding vocabulary has been invented or borrowed to describe the aims, objectives and techniques of the movement, emphasizing the personal qualities and attitudes it is intended to develop. Learning is now 'experimental', 'active', 'practical' and 'participatory'. Courses are modular, with a 'core' and 'options', teaching emphasizes 'processes' and 'skills' rather than 'content' and 'facts'. Pupils are 'profiled' on a 'matrix' through 'continuous' assessment, not simply tested or examined. Proposals for new schemes have to be written according to the 'criteria' and submitted for approval and 'accreditation'. Teachers and pupils involved in the various initiatives are encouraged to feel themselves part of something special, new and exciting, engaged in the task of transforming an outmoded education system through 'changed attitudes'. Pre-vocational courses invariably require staffing, resource, timetabling and facilities more generous than those allowed for old style 'academic' lessons, now dismissed as archaic and 'irrelevant'.

This politicized language defines the terms of a discourse about current social and moral problems, describing behaviour, attributes and attitudes. It establishes a structure of approved relationships, a process through which teachers and pupils may contribute to material progress. Scholars are challenged to give up their ivory tower and engage in the 'real' world. The language of pre-vocational education infiltrates every in-service course or meeting of teachers, washing away ground upon which critics might stand, obliging the sceptical to consider whether or not to endorse irrelevant academicism.

Pre-vocational rhetoric relies upon contrasts useful for social comment and political debate but almost meaningless for education. What do words like 'academic' and 'practical' denote? Is the study of Othello an outmoded, 'academic' activity? Does Shakespeare become less 'academic' when he is

performed and costumes are made? Is personal writing a 'practical' task? Is class discussion more or less 'practical' than an experiment in chemistry? Do computer keyboards and typewriters have a vocational practicality missing when mathematicians study the formulae upon a vocational practicality missing when mathematicians study the formulae upon which electronics is based? Art and music like most other subjects, depend on a blend of theory and practice; facts and concepts are no less vital than practical experiments in forming and understanding of reality. Quantum mechanic and Hegelian philosophy are remote abstractions that have changed man relating his with the real world.

Relevance is fundamental pre-vocational concept but conveys no precise meaning or intention. Instead it is used as a vague term of approval, implying that direct and immediate economic applications justify some forms of knowledge but not others. No particular topics are prescribed; instead relevance is a criterion teachers are supposed to apply in the drafting of syllabuses. The DES summary of Better School provides a tautological definition of relevance which illustrates how empty such criteria can become 'subjects should be taught so as to bring out their applications to the pupils' own experience and to adult life, and to give due emphasis to particle aspects'. On this basis, almost any subject could be taught in whatever manner suited the teacher. Teachers have in fact always chosen topics in this way, seeking to stimulate the imagination and interest of as many children as possible, judging what is appropriate for their pupils. The danger is that pre-vocational education seeks to generalize, moving from a teacher's intuitive sense of what has the best chance of encouraging growth and development towards a narrowly instrumental prescription for whole groups of young people. Learning is too unpredictable a business for this approach to succeed.

Teachers on courses have learned to speak a new language dominated by arcane acronyms and positive-sounding adjectives without definite meaning. Amongst those

in receipt of appropriate funds there is an almost missionary willingness to change the face of school, to foster active, participatory, relevant and practical studies and to use very expensive equipment whenever possible. Unlikely colleagues begin to insist on the need for problem-solving and simulations. When pre-vocational courses are scrutinized in detail, however, their content is disappointing. Too often schemes are no more than a melange of recycled and familiar ideas, unsupported so earnestly desired. 'Communications skills', for example, resemble the basic arithmetic and business English offered for years on technical college day-release courses or to low-ability pupils in secondary schools. Business studies and information technology do not represent a remarkable development from the standard offering of typewriting and office practice. TVEI has funded a great expansion in the number of computers and electronic devices but it is doubtful whether currently available software is equal to the claims made for micro-learning. Is button-pressing, for example, any more 'practical' or 'interactive' than reading? Nor is there much evidence that the future will hold large numbers of jobs for pupils familiar with keyboards.

By contrast, pedagogy in physics and mathematics has been unaffected by pre-vocational ambitions. Only a small number of students properly master electricity, electronics and control technology. For such pupils TVEI has opened new possibilities, but what of relevance for the majority, who remain as baffled as ever by circuits, whether constructed with batteries and wire or integrated and printed on silicon? Strangely, science has been omitted from many vocational schemes; money has flowed into applications rather than generating ideas for new development.

Work experience and careers guidance support these vocational elements, as they do in almost all schools. Personal and social education is not an invention of the pre-vocational movement. Other ingredients include community service, gardening, environmental studies, art and drama; all areas well developed by schools in the 1950s and 1960s.

Vocational has attracted few able students; GCSE is the guarantee of worth ambitious families pursue. Public schools have not complained of their omission from vocational or pre-vocational plans, nor do they enter candidates for CPVE, BTEC or CGLI courses. Parents and able children calculate that worthwhile jobs are not available by this route. 'Practical' training is not a realistic preparation for leadership positions in British society.

On the other hand, the pre-vocational movement has raised important questions, enhancing the status and credibility of work for the less able. It has enabled teachers to revive discarded ideas and approaches, especially from the secondary modern tradition formerly squeezed into the margin by comprehensive reorganization. Teachers have been stimulated by working on curriculum development with colleagues from other schools. A willingness to experiment with profiles and composites, team-led courses are an alternative to deadening habits and routines. Some excellent effort has been made to address the needs of less than average students. Some YTS schemes have been offered a sensible introduction to work. Connections with industry have provided 'reality therapy' and significant improvements have been made in post-sixteen vocational training.

A price has been paid, however, for these modest achievements. Work-related training and education has stolen the initiative from schools, encouraging teachers to adopt fashionable, off-the-peg ideas without careful reflection of their own. Political energy from the centre has focused educational debate upon questions, establishing a false set of priorities for the system. New initiative on ruthless slander of political assertion not the accumulation of evidence. It is alleged that by the late 1970s schools were irrelevant, offering an inappropriate academic education bleached of all power to simulate or entertain. TVEL is presented as saviour, an injection of life restoring curiosity and imagination at a single, modular stroke. No mention is made of drama, art music, CDT, Nuffeld science games swimming, food and nutrition

computing, work experience or a host of other lively activities enjoyed by most pupils in most schools throughout the period of supposed alienation.

Sir Keith Joseph frequently alleged that the bottom 40 per cent emerge from all these experiences without pleasure or benefit. But if lessons were taught so badly in the past that no one enjoyed them, how are such dreary staff to be energized by TVEL? If teachers are irredeemable, why should vocationalism succeed where all else has failed? If the complaint is about teaching methods is so called academic subjects why were these pedagogic problems not tackled directly? If pre-vocational education simply means giving some children more of what they seem to like the barely concealed implication is that books should be abandoned altogether on the grounds that reading is difficult.

Pre vocational scheme give the impression of an approach to education based on key principles; that a new practice influencing teaching has been established. The reality is a retread package for slow learners. Vocationalism has not offered a fresh analysis or detailed criticism of teaching methods or content nor has it explained why some children learn while other grow to hate what should be the tools of their liberations. Why do some youngsters turn against apparently enjoyable activities from trampolining to badminton? A preference for short term goals and practical learning does not amount to an educational philosophy the idea of some children being with their hands is old and discredited.

What is offered instead is an unsatisfactory admixture of progressive ideas and behaviour objectives. Lords Young's reliance on the rhetoric of change and improvements and the MSC's dependence on progressive vocabulary indicate the shallow thought underlying so many initiatives. No one is now better placed to teach Henry VIII with greater relevance or to conclude that Tudor politics is irrelevant to life. No one knows how to make science more appealing for less able students or what knowledge will turn out to be the most profitable.

Essential methodological and curriculum issues are now neglected or judged according to a criterion of usefulness drawn from politics rather than education instrumentalists are unable to distinguish social and education objectives. Analysis begins with the unemployment queue and imported music center not the intrinsic problem of selecting topics or crafting powerful experience from them. The result is a misleading, circular argument that technical training and enterprise can industrial decay. Where decay has already several undermined education, new technological colleges are promised.

An edifice of reform has been built upon a presumed connection between the school curriculum and economic growth for which not a shred of evidence exists. No economist has suggested how the adoption of pre-vocational schemes might change the performance of British industry, nor have shortage been identified in the areas for which training is provided. YTS is not part of strategic plan for the economic; it exists rather, to service an enterprise culture which is supposed to make planning unnecessary Vocational initiative are designed to extend factory/industrial disciplines and control from the workplace into schoolrooms, allegedly suffused with anti-industrial attitudes and an almost aristocrat disdain for manufacturing.

The vocational emphasis is also damaging to the idea of education for citizenship. Teachers preoccupied with market place consideration for natural to differentiate pupils and subjects according to their presumed students are less likely to be seen as citizens who are to be asked to wield the royal sceptre and should be educated accordingly in the arts of self governments. They re divided, rather into academic and practical groups set for work on quite different assignment. Subjects are classified so that aesthetic and moral experiences central to maturity judgment and citizenship are secondary to the skill that may earn a crust to bread. Applied activities are exalted above the spiritual and the imaginative in a frantic search for usefulness. Information and word-processing are

elevated the creative activity that leads to words and information is passed over.

Local authorities have to submit schemes and proposals in order to qualify for ESG or MSC funding. This has the effect of removing a welfare state basic for education. In the place of a right to a minimum education provision and an entitlement to an accountable democratic service, there now stands an embryo apparatus of competitive tendering. Young people are coming to depend for their educational opportunities upon the entrepreneurial flair of inspectors and officers. Teachers lose their professional detachment and scramble for resource instead. Headteachers come to measure their success in terms of additional revenue rather than by the quality of relationship within the school upon which the virtues of education once depended.

There is too, a sad irony in an obsession with the needs of industry that serves only to enhance an already excessive concern with jobs. Radicals have long criticized the self-defeating emptiness of the qualification spiral and the hollow promise of a 'better job' for hard-working pupils. Teachers have tended to stress instrumental rather than intrinsic satisfactions in arguments with recalcitrant students. Pre-vocationalism is another explicit turn of a very old screw rather than a new departure, a further narrowing of the scope of education for ordinary people. The attempt to anticipate industry's need for computer programmers, graphic designers, plumbers and motor mechanics is inevitably forlorn; within a few years technology moves on and the limitations of job-specified training are revealed. Nevertheless, the constant stress on getting and spending shifts attention from the proper business of education. Education, especially mass education, should be business of education, extending democracy and enabling individuals and communities to exercise power over their own lives. This does not mean that work and industry should be set on one side, only that aesthetic, moral and political decisions should not be neutralised by economic considerations.

Pre-vocational education replaces the ambiguity of a poem with the certainty of production; the tangible virtues of spelling and adding are substituted for the complex symbols of art and music. The interpretation of meaning and culture is discounted as pupils are introduced to specific techniques and skills. The vocational impetus has impoverished education by defining human purposes so narrowly.

Teachers should not seek to escape to a secrete grove of academe, cultivating their blooms without reference to an outside world. There is nothing wrong with usefulness and relevance, only their development as instruments of political ideology. Industrial culture is an inescapable and necessary feature of our lives. There is no advantage in a romantic rejection of factories and mills. On the other hand, a democratic vision of education, based on aesthetics, morals and citizenship is more likely to liberate the talent of the people and to provide a secure foundation for their inventiveness and utility. Literature, for example, engages in a constant dialogue with life. It is not a self-indulgent exercise for an elite. A broad, humane and liberal curriculum is the best guarantee of economic success. Unsuspected and little considered abstract notions will transform human life long after the last grocer's shop has succumbed to an out-of-town hypermarket.

Beyond the New Vocationalism

The root cause of the misconceptions and malfeasances described in this book is Britain's economic decline. By December 1982 British manufacturing production had fallen to the level at which it stood in 1967. With growing unemployment, the education system was a convenient scapegoat for industry and politicians alike. The banner of skills and vocationalism had already been hoisted in James Callaghan's 1976 Ruskin College speech. It was a simple matter to instal the new doctrine through the powerful and non-accountable agency of the Manpower Services Commission. What might have been thought less simple but which in the event turned out to be quite straightforward, was the enlistment of support for the vocabulary of skills and vocational preparation from the academic community. The result is that over. The last five years, with launching of YTS, TVEI and LPVE in quick succession, the language of the new vocationalism has become a commonplace of staffroom discourse.

There is, however, absolutely no evidence to suggest that the new jargon has addressed fundamental issues to do with secondary education or, for that matter, with our industrial performance. In education these issues are plain enough, and brought sharply in focus by the contributions of Mike Golby and Bernard Barker. The knowledge-centred, examination-dominated curriculum of the grammar school has been

applied uncritically to comprehensive schools. A form of education intended for 'academic' pupils has been applied, with alienating consequences, to pupils of all abilities.

Even, so, it should be noted that schools have been remarkably successful within this canon so warmly espoused by parents and politicians, in delivering examination results. Simon has recorded the prodigious improvement made by schools over the last ten years, since comprehensive organization took hold. If getting jobs really were a matter of securing exam qualifications, youth unemployment would scarcely exist. But since there are so few jobs, it does; and it is politically expedient for the Prime Minister to describe education as a disaster and to argue that joblessness stems not from government infirmity but from an absence of work-related skills.

We can hardly be surprised if politicians regard attack as a form of defence, although the sustained vilification to which schools and teachers have been so unjustly treated bodes ill for our intellectual future as nation and ought not to be forgotten, nor forgiven, too readily. But the fervour with which the doctrine of skills and vocationalism has been embraced is more serious, for two reasons. First, it embodies a rhetoric which is, as Barker puts it, 'almost meaningless for education'. An Jerry Wellington's inquires suggest it has, in reality, as little meaning for employers: their needs 'are not framed in terms of skills'. To give the concept of a skill any durability, it is necessary to dress it up as a new, 'transferable' entity. The Further Education Unit has embarked on this strategy with great vigour, but the exercise - as Paul Grosch demonstrates - will not bear close scrutiny. The 'core skills' component of the YTS depends on the same device, orchestrated in this case by the Institute of Manpower Studies; but Ruth Jonathan shows with stark clarity that the Emperor still does not appear to have any clothes'.

And the rhetoric of skills is not merely meaningless: it diverts us in a most damaging way from the real task, which must be to develop a form of secondary education that will

prepare our children, in Golby's words, to become 'good parents, full members of the community, thinking citizens and critical participants in an evolving democracy'. To be sure, that traditional grammar-school curriculum ill equips them for these tasks; but the pre-vocational skills-based curriculum is just as inept. As Barker observes, it amounts to little more than 'a retreaded "package" for slow learners'.

This is the second consequence of the skills bonanza - its inherent divisiveness. At a time when cohesion and communality are so desirable - when the consequences of social and sectarian divisions are clearer than ever, and more harmful than ever - the last thing we should be introducing into schools is a form of curriculum which has repeatedly downed itself, whenever it has been tried, as one which reinforces distinctions between pupils by setting up the 'practical' alongside the 'academic'. Yet it is not inconceivable that at least some of those involved in this work are well aware of these consequences, and see them as desirable. Ranson quotes from an interview with a DES official;

There has not been selection because we are beginning to create aspirations which increasingly society cannot match. In some ways this points to the success of education in contrast to the public mythology which has been created. We have to select: to ration the educational opportunities to meet the job opportunities.

The reference here to the myth that schools have failed, when the reverse is demonstrably the case, is interesting too. And so is the view of another DES official interviewed by Ranson: 'If we have a highly educated and idle population we may possibly anticipate more serious social conflict. People must be educated once more to know their place'. This kind of social thinking, so characteristic of the mid-Victorians, hardly squares with the public rhetoric of an 'enterprise culture'. But if we should want to stigmatize part of the population by offering them an impoverished curriculum, the language of 'vocational preparation' is the simplest way to do it. The de Ville committee's proposal that a separate vocational

qualification should be offered alongside GCSE does nothing to dispel these doubts. Neither does the government's determination to buttress the traditional grammar-school curriculum for the most 'academic' pupils by introducing a 'distinction' and 'merit' category into GCSE, and AS level at 18 plus as a further reinforcement to A-level.

In all these ways, skills and vocationalism not only deflect us from reinterpreting secondary education: they undermine attempts to give meaning to the notion of a common curriculum. But they fail too, as I have suggested to treat the shortcomings of our industrial performance. Senker's study of TVEI concludes that:

If is difficult to make a case for technical education in schools on straightforward economic grounds. Japanese 'failure' to incorporate significant elements of technical education in school curricula does not seem to have impaired their country's economic performance.

The point is made more generally in Ollerenshaw's perceptive and authoritative survey of education and industry.

Wherein does any potential threat of manpower planning lie? It lies in too narrow or too early specialization in school or in further or higher education in subject disciplines which.. do not form a sound or broad enough base for rapidly changing types of employment.... It lies in any too-detailed attempts to match courses to current employment needs which may later collapse.... It lies in uniformity, it centrally administered and adjudicated examination.... It lies in trying to manipulate the education system to meet forecast manpower requirements.

What is particularly interesting about Ollerenshaw's list is that all these threats to industrial health are current policy, and some of them are in favour with other political parties the effect of 'voc-prep' is to foreshorten a broad education from 11, the new CTCs imply a restatement of the 11-plus, so that it ends at 14 not 16; the rhetoric of the 154-18 curriculum

narrows and prematurely specializes; YTS and CPVE both gear the post-16 curriculum to current employment needs, through their close linkage with industrial training; the new GCSE examination at 16-plus will be nationally controlled through its grade criteria; the manipulation of further and higher education to meet currently perceived needs is now a major objective of MSC and DES planning as Large has noticed?

The essential point about the huge investments in higher education in Japan, Singapore, South Korea and the rest is that they are aimed not merely at meeting the narrow, cannon-fodder demands for particular technical skills; they seek to produce multi-disciplinary graduates, ready to handle the kaleidoscopic shifts of information-based economics.

Several observers have noted that government policies incline towards a West German model of education and training. And the political lobby which argues that an 'anti-industrial culture' exists in Britain - which methods such as 'Education for Capability', with its emphasis on the German concept of technique as the missing element in our schools, would allegedly eliminate - draws support from the same source. It is very evident that the MSC seeks to move in this direction, for the IMS report *Competence and Competition* took pains to emphasize the merits of West German arrangements. It need to be said that not only is much of this advocacy based on a misconception; it is also the case that the West Germans are beginning to doubt whether their model - which is, after all, as old as this century - gives them the flexibility modern economics needs, and which that of Japan clearly possesses.

In the short term, German approaches largely remove 16-18 year olds from the unemployment register. But their 'dual system' links the workplace with a broadly-based education in the - a very different matter from the impoverished offerings of the MSC 'core skills' programme. The Germans have a concept of 'formation', of combined education and training of the whole person which imposes

vastly increased costs upon German industry. German industrialists have come to see the economic benefits of this. In the UK training during employment is a low priority on which very small sums are spent. Moreover, British firms are a byword for philistine shortsightedness - even the director of the MSC has had to resort to shaming them into some kind of training activity. As Clive Seale points out, 'The CBI position on the curriculum of the YTS allows little room for liberal educational principle.

It is unlikely that British industry could now find the money to finance a German-style 'formation' system, even if it had the will to do so. And German doubts about the future efficiency of their system surfaced when, at an international conference, their team:

Spoke of an uphill struggle against the divisiveness of their system, which provides excellent vocational education for the majority but cuts them off from the academic few... They voiced fears that neither (group) is being prepared for a changing world.

But the Germans have, of course, made little progress towards a system of comprehensive schools; it seems sad that rather than build on this national assets, we are being urged to support policies which can only reinforce divisiveness.

What is less generally known, though, is that technique has no place in the German school curriculum. Horner remarks: The alleged "third culture" either does not appear at all on the West German secondary school curriculum or is merely allotted an entirely marginal position. West German industrial success owes nothing to the vocational strategies being urged on British schools by the MSC, the IEU and the 'Education for Capability' movement: 'Primary and secondary education in the Federal Republic of Germany has... stressed the learning at school is to be free of all economic ends of purposes'. This may come as a surprise, enjoined as we are by the 1985 White Paper, *Better Schools*, that 'It is vital that

schools should always remember that preparation for working life is one of their principal functions'.

The reason for this seeming neglect is not that the West Germans despise technology: quite the reverse. They recognize that it is not only different from science, but a demanding intellectual activity for professional courses at degree level. Advanced technical education in the German Technische Hochschule, as Horner points out, differs from that offered in English polytechnics and colleges by its freedom from vocational concerns and its academic parity with traditional arts and science courses. The lesson for us here is clear: nothing to be gained by pretending that watered-down, science-linked 'technology courses 14-16 advance the purposes of either education or industry.

In any event, the Technische Hochschulen are now showing their age - as, indeed, is the divided West German system. Now often rechristened as Technische Universitäten to enhance their status, growth in engineering students has still been outstripped, James 12 points out, 'by the growth in students numbers for social sciences and economics'. As regards British admiration for Germany's dual system, James offers a word of warning:

Unfortunately, there is a large element of myth about this picture. The apprenticeship system is a rather odd relic of an odd past, and is far from being a purpose-built tool to handle the microchip... In short, Germany has been training the young to repair bridges and cars in a customer society, but not really to service a technical revolution.... During the past 15 years. Germany has lost more jobs than Britain..... Many Germany failure to adjust technical training to new circumstances.

Yet this 'odd' and outdated system seems to monopolize the thinking of the government, the MSC and the DES. And it is a system, with its compliant public acceptance of a division of pupils into different categories, which derives from a much more authoritarian society than Britain's. Our political

masters seem to have forgotten that the idea of the 11-plus eventually became so repugnant to the polity that it was a prime political issue. They have forgotten, too, that in the 11-16 common school linked to the 16-19 tertiary college we have developed our own British solution, and an infinitely better one.

But such a solution requires an altogether more hard-headed view of technology as *technik* than the soft options masquerading under the banner of technology TVEI 14-16 courses. It must build on physics and mathematics, which are the appropriate pre-university preparation for it. There is, though, great virtue in the quite different argument that a design-based techno-aesthetic course should be a core component. Such courses, linking crafts with plastic and graphic art and kept well clear of misleading and pretentious associations with school science, treat technology in a broad, liberal sense altogether appropriate for the 11-16 curriculum: their justification has everything to do with education and nothing to do with vocational ends. It is regrettable that HMI have plumped for scientized school technology, despite its absence from the curriculum of German and Japanese schools and the poor educational case for it.

In technology as in other school subjects there is a continuation of purpose once educational considerations are pushed aside in the urge to be 'relevant'. Sir Keith Joseph has done much harm with his assertion that

What is taught needs to be more obviously applicable to the real world that the young see and will see about them. One very direct example of this approach has been the TVEI but the approach needs also to colour the primary curriculum, teacher training and examinations.

We can agree that the learning encounter devised by the teacher must have connectedness with the pupil's state of mind; otherwise it will be merely inert, decontextualized knowledge of the kind which features prominently in the grammar-school curriculum. But the test - as Barker's

discussion bears out - is to do both with what is taught and how it is taught. Writing an ode to a tractor may be very relevant to the real world of a country primary school, yet very boring. Discussing dinosaurs is quite irrelevant in the modern world, yet can be totally thrilling. This is not to say that content is unimportant, that only process matters - a view which is fashionable but absurd. It is to assert that both matter, and both depend on the professional judgment of teachers rather than imposed and misleading doctrines - whether these doctrines emanate from government minister, captains of industry or, for that matter, educationist.

The Joseph doctrine of relevance leads to a further misconception, since it implies that the educational encounter is to be derived from an analysis of whatever activity is to be classed as 'relevant'. Much of the appeal of vocationalism stems from its evident preoccupation with what is 'relevant', but attempts to put pedagogical flesh on the rhetorical bones inevitably lead to the kind of banalities set forth by writers like Charters and Bobbitt in the US during the 1920s. Bode's masterful annihilation of this approach should be compulsory reading for anyone contemplating it, and certainly for the FLU its whole 'voc-prep' philosophy, as Paul Grosch makes clear is pure Bobbitt, and it is extraordinary that a view of education discredited fifty years ago should be so naively embraced today. Our reluctance to choose politicians and administrators with a sense of historical perspective means that we often, as taxpayers, indulge them in the expensive luxury of making the same mistakes again and again. Stone makes this point tellingly, in discussing the vocational attack on the liberal tradition of Scottish education at the turn of the century: The utilitarians won, of course; and the irony at the end of all this should be spelled out; we are now less literate than we were in 1900, and I suspect that we have relatively fewer skills than we had in 1870, when the educational debate got under way.

Richard Smith's study of the DES-funded Teacher Education Project shows the dangers of applying the doctrine of 'relevance' to teacher training - a specific item on Sir Keith

Joseph's 1983 list, subsequently given the full treatment in the White Paper, *Teaching Quality*. It is said that Sir Keith regards this wonderfully wrong-headed document as his greatest achievement of office; certainly the urge to base the training course on what is 'relevant' to classroom experience is evident on every page. It is the great merit of Smith's chapter that it turns the argument of relevance on its head. For he shows that attempts to define teaching as a series of learnable, relevant skills, far from appealing to our common sense, fly in the face of it:

It is so obvious that personality and character are crucially important in teacher that the point would not be worth making were it not that too much emphasis on skills is effectively a denial of it.

More generally, we may say that talk of 'relevance' is a superficially beguiling way of dismissing education as an instrumental activity. The education of teachers is only worth doing if it relates directly to their work in classroom; the education of pupils must similarly relate exclusively to what can be justified as worth knowing in the 'real world', it is a view dismissive not only of education, but also of those who are to be educated. For they are viewed not as ends, themselves capable of acting as moral agents, and therefore to be equipped as such; they are rather means, functionaries who will demonstrate their skills in the classroom, pupils who will possess the required range of competencies. Because it is a diminished view of the educational encounter, it lends itself to the reductionism of skills, and to such futile exercises as the attempt to separate skills from knowledge, attitudes and values. Wellington's discussion is helpful here; and it should be noted that the HMI 'Red Book' series while showing an admirable concern for a broad core 'entitlement curriculum' 11-16, entirely misses the point of such a programme by insisting that it can be fragmented in this way. The same tedious litany of 'knowledge, skills, attitudes and values' is prominent in other HMI publications and confirms one's suspicions that senior HMI have succumbed to the virus

technocraticus managerialis. The cure is long and painful. Fortunately most teachers are immune.

Their immunity is guaranteed by their implicit understanding that education is more than a collection of competencies: it is, in Oakeshott's phrase, about helping pupils to make something of themselves'. The enterprises of education is not primarily to do 'make something of themselves'. The enterprise of education is not primarily to do with knowledge, and it is unfortunate that HMI, in their 'Red Book' prescriptions, have allowed epistemology to dominate their thinking. Of course content matters, and it needs to be broadly based if pupils are to acquire the capacity to act rationally; but it is only a means to this end, which depends primarily on the art of judgment. Education is essentially a practical and moral enterprises, and we can endorse Smith's conclusion; It looks as though "virtues" rather than "skill" should be at the heart of our conception of a good teacher'. And there is a symmetry between teacher and taught; teachers need to be moral agents in order that their pupils should learn how to become moral agents too.

Golby's point in his opening chapter is on all fours with this views school is primarily about the virtues of the considered line. And one might add, with Socrates, that 'the unexamined life is not worth living'. Education, in language of skills and vocationalism, no more addresses these moral principles than it does in the grammar-school language of knowledge and examinations. To substitute skill for knowledge is only to pass from one side to the other of the same counterfeit coin. Neither a purely vocational not a purely epistemological approach can constitute a basis for an educational programme.

From the evidence discussed here, however, it would appear that the two approaches beget each other: the 1943 Norwood report's division into the academic on the one hand, and the technical and practical on the other, might perhaps be regarded as the acceptance of the inevitable. Each is parasitic on the other: the academic curriculum leading to GCSE bears a

symbolic relationship with the vocational curriculum leading to a form of CPVE at 16-plus. This innate bipartism has been accurately captured by Sir Keith Joseph.

A balance (has to be achieved between the values of the broad liberal tradition on the one hand, and the tradition of useful education on the other... I do not deplore this (liberal) tradition at all it is vital for the preservation and enrichment of our culture... But I do deplore the one-sidedness and dominance of that tradition.

So do we, in this book ; but to suppose that some mix of the 'old humanist tradition, with the 'industrial training' model will produce sound 'public education' (to use Raymond Williams's terms) is like trying to make yoghurt from stirring chalk and cheese.

The tragedy of construing the secondary curriculum in this way is that it commits us to a sterile and misconceived dualism: our children are to be yoked for ever alongside each other in an unnecessary and destructive misalliance, like characters in a Greek tragedy. As Wellington reminds us, Huxley had the vision half a century ago to perceive this, and argues that 'technical education should become more liberal, and academic education a more adequate preparation for everyday life'.

Huxley was surely right to point towards a single, unified form of curriculum which could learn from the errors of these two malformations. But to believe that his unity can be achieved by more of one and less of the other misses the point that neither ingredient is equal to the task. Furthermore, it is to suppose that we should seek some kind of blend, when what is really needed is a fresh synthesis. Education as an ethical and political enterprise- and secondary education for all for life in modern society cannot settle for less -must address precisely those practical and moral issues which inspired the Greeks to invent liberal education. It is our peculiarly British tragedy that we fostered, in the last century a perverted form of liberal education under the 1904 Regulations for grammar schools.

Instead of preparing pupils, as Aristotle had argued, for the active task of the moral agent, the curriculum esteemed knowledge as non-negotiable and absolutely determined, to fit them for the passive role of the moral judge.

But it is of the essence of liberal education that it must be reinterpreted in every age, and it is precisely this task which we must address ourselves to now. As Golby has pointed out, our obsession with skills and vocationalism is incompatible with educational concerns, and has diverted us from these important matters. It has led to official publications invested with central authority, yet offering 'no discernible view of curriculum design'. It led to many millions of pounds being spent, through the TVEI on a handful to pupils in a divisive fashion which reinforces locker-room prejudice against intellectual inquiry and for new technology, but leave untouched any consideration of the real issues for secondary education. And in higher education, the instrumentalism of the vocationists has damaged teacher education, distorted funding for degree courses and given the seal of approval to a short-sighted and economically unsound approach to manpower planning.

Much of this lost ground cannot be recovered. But if we can recover our vision of liberal education, and place a concept of the virtues at the heart of the school curriculum, we can turn out present uncertainties and tribulations to good account. There will be no easy answers; much discussion and deliberation ahead. But we can no longer evade the task.

National Moves Towards a New Vocationalism

Internal review, critical appraisal, construction and reconstruction and, increasingly, assessment of the potential relevance for national policy of international experience have been particularly acute in the sphere of vocational education. Despite these endeavours and the enormous investment of resources, there is still a lack of clear and broadly agreed purpose in the new vocationalism, especially the unresolved policy issues of obligatory education and training post-16 and the relationship between the numerous strands and pathways in provision and their attendant qualifications. Uncertainties remain about both the appropriate structures and the contents of an procedures for delivering vocationally oriented programmes, although much hope is held out for the emerging structure of National and General National Vocational Qualifications.

In this chapter we move from the broad, international patterns of vocationalism and core curriculum thinking, to developments during two decades in the specific setting of England and Wales, the focus of some of the most far-reaching programmes and innovations over this period.

New initiatives of the 1980s

A series of initiatives in the field of education, training and preparation for work, can for various purposes be lumped together under the heading 'the new vocationalism'. Those

words require clarification; the policy innovations amount to much more than can be summarised by a convenient term. There has been an ample supply of official documents and policy statements whose frequency of production and assorted collection of comments and proposals testify equally to unresolved issues in practice and a high degree of fluidity not to say ambivalence of thought.

Following the rapid growth proposals and action programmes in the 1970s, designed to raise the profile of vocational education and training and overcome long-standing weaknesses, in the 1980s a new policy framework was erected. A series of government White Papers—*A New Training Initiative: A Programme for Action*; *Training for Jobs*; *EDucation and Training for Young People*; *Better Schools*; and *Working Together: Education and Training together* have constituted major new policy directions. The 1988 White Papers, *Employment for the 1990s* and *Training for Employment*, together with *Education and Training for the Twenty-first Century* carried this process further while substantially modifying certain of the then recently established programmes and structures. Most striking has been the shifting balance of centralism as different policies and interests prevail.

Support for the new vocationalism has been strong among employer groups, the trade union movement and the Labour Party. The influential 1989 report *Towards a Skills Revolution*, of the Confederation of British Industry's Vocational Education and Training Task Force, as we have already noted, criticised the skills level of the British workforce and argued that 'individuals are now the only source of sustainable competitive advantage' which Britain has in seeking to improve its economic position. In a wide-ranging review of 'world class targets' for action, including a blunt call to all employers to become investors in training for these, a key recommendation was 'offering more relevant transferable skills and broad based qualifications to British youth'. Accordingly, the CBI called for greater emphasis on

core skills in both the national curriculum and specific training programmes, including its own list of 'core elements'. These comprise a heterogeneous communication; applications of numeracy; applications of technology; understanding of work and the world; personal and interpersonal skills; problem solving; positive attitudes to change. In 1993, the CBI followed with its Routes for Success. Carrership: A strategy for all 16-19-year-old-learning. Here, the CBI laid strong emphasis on foundation, employment-related skills for all young people; core transferable skills within a single framework for all 16-19 qualifications; a 'careership' profile following on the 1991 National Record of Achievements; career education and guidance for all; and a financial incentive to increase participation in structured learning.

The Trade Union Congress too, responding to changes in work, the workforce and the global economy, affirmed the need to draw on the full potential of the workforce; 'By the year 2000, we will be either a superskills economy, or a low-skill, low-pay society'.

Among many other statements, mention may be made of the Royal Society of Arts Learning Pays which, like the CBI reports, aims to set a clear standard for action and explains the implications of acceptance of 'a national expectation that everyone should continue learning at least until the age of 18, and that all should aim to reach NVQ level 3 during the course of their lives'. The Labour Party, in its average standard of educational/training attainment but also to its policy objectives of a system which established a coherent set of pathways for all students, 16-19, through the proposal of a new Advanced Certificate of Education and Training.

New educational and training arrangements of great range and diversity and covering both secondary schooling and post-school training have been proposed and many of them introduced from the early 1980s. They include the Youth Training Scheme; the Certificate for Pre-vocational Education, the Technical and Vocational Education Initiative, the Review of Vocational Qualifications (RVQ) and the consequent

National Council for Vocational Qualifications (NCVQ), the replacement of GCE Ordinary level by the General Certificate of Secondary Education (GCSE), City Technology Colleges (CTCs), the national curriculum enshrined in the 1988 Education Act, the emerging structure of National Vocational Qualifications (NVQs), the introduction of General NVQs (GNVQs) into schools and colleges, and the attempts to establish party relationships between GCSE, A level and NVQ qualifications.

This kaleidoscope of schemes and proposals, sometimes only distantly related to one another, and the divided responsibility of different competing agencies, bear witness to an unparalleled scale and intensity of activity, amounting to a substantial if still confused overhaul of the framework for the much of the practice in national education and training. Why has there been this policy upheaval and what have its different schemes been designed to achieved? The first part of the question has already been addressed in a general way in the preceding chapters; to understand what the different schemes aim to and might achieve we need to consider them in turn.

The Youth Training Scheme (YTS), taking its first entrants in April 1983 and incorporating elements of previous programmes, was introduced as a one-year work-based scheme of broad vocational preparation for 16-year-olds. Open to all young people aged 16 and 17 who had left full-time education, and to 18-years olds with special needs, it in practice attracted mainly those who, lacking nationally recognised qualifications or underachieving at school, saw it as a route to obtaining a job. Realisation of the job expectation was militated against from the start by changing labour market conditions together with the inherent weakness of what some of its critics have complained was an essentially remedial job-substituting school-work transition programme. In 1990 the YTS was succeeded by what was presented as the more flexible Youth Training (YT), a scheme whose fortunes, like that of its predecessor, have continued to fluctuate.

The Certificate for Pre-vocational Education (CPVE),

introduced by means of pilot courses in 1984/85, aimed to provide a national, school/college-based pre-vocational qualification for an approved one-year full-time programme after compulsory schooling, consisting of core and vocational studies. It was targeted at those who needed a post-16 course which was neither GCE nor preparation for specific occupations. In practice the popularity of GCE courses and retakes, after 16, on the one hand, and the relative attraction of the YTS for those who wanted to secure a job as soon as possible on the other, threatened from the outset to leave the CPVE without a distinct catchment. In turn, the CPVE is now being replaced with a new Diploma of Vocational Education.

The Technical and Vocational Education Initiative (TVEI), announced in 1982, financed the introduction of technical and vocational education into schools with the objective of greater employment relevance in the curriculum of pupils of 14 years and upwards. The first pupils entered pilot courses in 100 schools in fourteen local education authorities (LEAs) in September 1983; starting in 1986 this was extended on a progressive basis to other LEAs, aiming at national coverage. Available to pupils of both sexes and all abilities and incorporating a number of innovatory practices such as profiles of pupil achievement, these courses were intended as a four-year programme, though in practice many pupils have tended to split off either into academic or YTS/YT courses at 16. The TVEI has proved popular, it offered many benefits, not least additional finance, to schools. But it, too, attracted critics, one of their arguments being that the broad aims of schooling were in danger of co-option by a narrow set of job related, short-term ends.

The rapid introduction of these three vocational or pre-vocational programmes highlighted existing problems of articulation of separate structures and progression of students. In 1985, in recognition of this and of the importance of developing standards of competence, the government set up a Review of Vocational Qualifications (RVQ) under the chairmanship of the then Manpower Services Commission,

(MSC). Its major recommendations, published in May 1986, were accepted by the government who announced the establishment of a National Council for Vocational Qualifications (NCVQ), an independent body, charged with securing standards of occupational competence, and the design and implementation of a new national framework for vocational qualifications. In the name of coherence-ostensibly of levels and standards of attainment (outcomes), but also of the supply of programmes and qualifications-the NCVQ has moved beyond the task of rationalising the tangle of post-16 awards to that of drastically reforming those awards, requiring significant changes in courses and methods of assessment, essentially through the devices of NVQs for vocational qualifications and, more recently, GNVQs for school-level qualifications, as we see in more details later.

All these initiatives put emphasis on facilitating access to vocationally related programmes and the acquisition of competence and marketable qualifications by pupils of all levels. Another sought-for addition to the new vocationalist programme is at the level of wholly new institutions. This is the provision for the establishment, through what the government hoped would be private sponsors, of independent City Technology Colleges (CTCs). These are intended to provide for 11-18 year-olds, abroad-based education with a strong technical and practical element, ostensibly for pupils over the full ability range. A stated objective is to secure the highest possible standards of achievement, both academically and in other ways' (DES, 1986b, p.4), and considerable attention has been given to the integration of CTCs into the existing education and qualification system. There is more than an echo in the idea of CTCs of the old technical education stream deriving from the 1944 Education Act, hence an indication of less than enthusiastic support by central government for a fully comprehensive system. Another illustration of this is government encouragement of secondary schools which specialise, for example, in science and technology and the arts. Such specialisation, not necessarily vocationalist, nevertheless

has the potential to strengthen links between schools and particular occupational fields.

The innovatory programmes and policies are a mixture of direct inputs into the education and training system and models or proposals for its reform, the most radical in that respect being the NCVQ with its constant theme of 'outcomes' and a unitary national framework of domains and level. In the same period there have been major curriculum development proposals for school, in addition to the TVEI, which appear to be infused with similar values and objectives- for example, the emphasis on higher and measurable standards of achievement in schools; the call by the then Education Secretary Sir Keith Joseph at the North of England conference in 1984 for a broad, balanced, relevant and differentiated curriculum; the increased emphasis on problem-solving in the criterion-referenced new GCSE; the announcement of a national curriculum and procedures for its assessment comprising distinct subject areas (domains) according to a model of levels, at ages 7, 11, 14 and 16, in the 1988 Education Act.

Efforts have been made to overcome the difficulties arising from status differences and the weak national co-ordination of the numerous and varied elements of national education and training. The issue of 'parity of esteem' between vocational and academic qualifications among school-leavers, is addressed if not resolved in the 1992 White Paper. Papers from both the National Curriculum Council (NCC) and the NCVO, have addressed the issue of a common core of skills among all school-leavers, whether studying for A levels or BTEC or similar courses. While it is well beyond the limits of this book, or any other single volume, to analyse in any detail the vast array of qualifications and the myriad courses leading to them, in examining the new vocationalism, attention must be paid to signs of a similar philosophy at work in those parts of the system and those policies that are not directly vocational.

A style of thinking has permeated large parts of the education and training systems even though the new policies

of the period under scrutiny have been assembled piecemeal by a variety of agencies through a number of often uncomfortably overlapping and competing initiatives. At the expense of close attention to the structured, balanced and sequences content of teaching and effective ways of learning, innumerable schemes relating to structure, organisation and qualifications have flourished. At least until the late 1980s, the greatest single weakness has been the dearth of systematic curriculum-mapping exercises by contrast with the proliferation of policy proposals and organisational schemes at awards. Despite all the effort, by contrast with the A level route into higher education, taken by only a minority, for the majority there was no mainstream post-16 education; an 'absence of coordinated technical and vocational tracks from school into employment and higher education.

The confusing nature of what emerges should not, however, be allowed to obscure either the extent and scale of the change or an evolving direction of policy. The full extent of these changes has still to be realised. While it is not yet possible to assess the innovations thoroughly, we can use statements of objectives on the one hand and early developments and tendencies, reports and reactions on the other, to analyse and appraise these innovations; and, where relevant, a historical slant or a comparison with European or other practice to elucidate the nature of the events.

Foundations: the new training initiative

The innovations and policy initiatives of the new vocationalism have emerged from many minds and several agencies, yet there is one seminal documents, namely the New Training Initiative (NTI) generated by the MSC and published by the Departments of Employment and Education. The NTI demanded a coherent approach to training for the 1980s. During the late 1970s it had become apparent that the existing courses for 16-plus students not taking A levels, then beginning to stay on at school in appreciable numbers, were either inappropriate (O levels) or presented in the form of a very confusing array for potential students to access. It was

urgent to rethink provision. One influential example of this rethinking was the Further Education Unit's (FEU) document *A Basis for Choice*. The authors of the NTI, while paying tribute to *A Basis for Choice*, sought, from the perspective of the employment sector, to offer their own 'new look' in education and training policy.

The contemporary debate on the purposes of schooling and its relationship with training and the world of work goes back even further, to at least the then Prime Minister James Callaghan's Ruskin College speech of October 1976. Callaghan, in this, voiced an already widely held view that some of the comprehensive schools were reluctant to prepare children specifically for their place in an industrial society.

The goals of our education, from nursery school through to adult education, are clear enough. They are to equip children to the best of their ability for a lively, constructive place in society and also to fit them to do a job of work. Not one or the other, but both... There is no virtue in producing socially well-adjusted members of society who are unemployed because they do not have the skills. Not at the other extreme must they be technically efficient robots.

Indeed, earlier that year the government had published a statement, *Unified Vocational Preparation: A Pilot Approach*, committing it to expand learning opportunities for 16-18-years-olds through a number of experimental vocational preparation schemes. Earlier still, in 1974 the Labour Government had established the MSC. The sentiment of Callaghan's remarks finds echoes, too, in a long historical line of government inquiries and reports.

In openly restating utilitarian aspects of education, and declaring a causal link between skill level and unemployment, Callaghan's speech helped to prepare the ground for the NTI, although it and subsequent policy developments give the utilization orientation not equal validity so much as favoured treatment. The basis for this favoured treatment was then, and remains, problematic" 'to fit them to do a job of work' is a

phrase that resonates practicality, usefulness and common sense yet it raises questions that, after nearly twenty years of sustained effort and massive expenditure, are still unanswered in youth and education policy.

The New Training Initiative, the 1981 consultative document of the MSC, addressed all those interested in training, with the familiar proposition that, historically and culturally, training for working life has not been given sufficient priority in the UK. It sought to obtain agreement from those interested, in particular, government, employers, trade unions and the education service, about priorities and objectives for the future, and to launch major new initiatives to transform the situation.

It is interesting to observe the similarity in sentiment and style to the American report of the same period *A Nation At Risk* (National Commission on Excellence in Education which, as we have seen, stands for its country as a seminal document in the realignment of much national educational debate during the 1980s. The touchstone in both documents was economic efficiency to meet the new requirements of international competition. Jobs requiring employees with very limited skills were disappearing rapidly in the late 1970s and early 1980s. New markets and technologies would require a more highly skilled, better educated and more mobile workforce in which professional and technical staff would have to be supported by workers trained to perform a range of tasks which involved processes rather than repetitive assembly. Even at a time of high unemployment, skill shortages existed and firms wishing to exploit new economic opportunities had (or preferred) to change or upgrade the skills of their existing workforce. As we have seen, this was precisely the kind of analysis being made in a number of the OECD countries as well.

The difficulty in Britain has been one of encouraging long-term perspectives among both employers and employees, a planning and co-ordinating mentality, a readiness to forgo the satisfaction of some present wants in the

interests of investing in the future and an awareness of a common national interest. Employers, whether in good times or in difficult economic circumstances, have usually chosen a short-term solution and saved on training costs, hoping to buy in skills when needed. Unions have, until recently, seldom taken industry-wide training seriously. Young people, not always adequately prepared for working life by their schools, had in the past found that their training opportunities, where any were sought at all, mainly consisted of apprenticeships. These had become outdated and time-severing, limited to a few occupations, and had not been developed in the newer, rapidly growing sectors of the economy. Often even good apprenticeships were not popular.

In the analysis made in the NTI, it was pointed out that while further education (FE) colleges offered a range of post-school education and courses of training leading to national examining or validating body qualifications, the overall provision of this non-advanced vocational education was limited to about 30 per cent of the workforce. Courses were generally associated with craft/technician levels of training (usually via apprenticeship) for young people, mainly male, of average or above average academic ability. The curricular were generally determined by the major examining boards and syllabuses largely concerned with technical knowledge and skills. Learning might be classroom-based, laboratory-based and/or workshop-based. Not all the content was necessarily immediately relevant to the trainee's job, but it reflected the job culture and certification was a significant factor in career progression. The NTI inferred that new policies and programmes were needed for the large unskilled sector of the traditional workforce; and that improved economic performance demanded a workforce with identifiable, measurable, transferable skills. The problem was both quantitative and qualitative.

The NTI constituted a challenge whose profundity was at times masked by glib phraseology and its detachment from the underlying realities, dynamic and static, of British society.

But there were and are few who would disagree wholly with the NTI analysis; it hit upon many of the underlying weaknesses of the British approach to training. Like *A Nation At Risk*, it offered a serious challenge that could not be ignored. Nevertheless, it was after the publication of the NTI and in the drafting of the objectives and contents of the national YTS which came out of it, that the beginnings can be observed of a process of oversimplification and reductionism which characterises a number of the new vocationalism initiatives.

The first confusion arises in failure to reconcile economic, industrial/commercial, social and educational policy objectives. Too little time and effort then went into and since has gone towards this very demanding analytical activity. A heavy price has been paid for the often superficial and always over-hasty decisions that were substituted for the hard, time-consuming analysis that was needed at the beginning of the 1980s. Hence policy has too often seemed to be partial, shallow and poorly integrated.

There has been a marked tendency to latch on to factors which, while they are closely associated, may not be causally related and in any case have only very limited explanatory value. Inadequate training and motivation of the unskilled young people themselves is regarded by some policy-makers as the cause of the problem, and economic recovery seen to depend on improved motivation at that level and the skills necessary for working life. Education and training must make young people respond to this and must be active, practical, relevant and vocational. The key to better economic performance is the better preparation of a large slice of human capital. In this sense the new vocationalism is a highly focused aspect of economic policy, which, while highly relevant, distracts attention away from factors such as the more selective and prestigious parts of the education system, social structure, industrial investment, job restructuring, and other dimensions of structural adjustment, world trade patterns, cultural mores and other interpretations of Britain's economic

ills. The focus of the new vocationalism has too often been the unskilled worker as Smith and others pointed out, the economic problems facing Britain require strategies which pervade the whole society and require a new quality of management, administration and leadership.

The focusing of attention on one, but by no means the only, cause of youth unemployment and poor economic performance has critical implications for the education system, notably for central government strategies for reform. Again these are highly controversial bases for policy making the schools, it is alleged, have failed, are not providing value for money, and are offering irrelevant curriculum. The NTI, very much a creature of its time, was part of a process of transformation whereby, in education generally and in vocational education and training, national ministries and agencies have taken the initiative throughout the 1980s, combining an adherence to the theories of neo-liberalism, the market and individual choice with highly centralised, government-led, system-wide change strategies.

The training initiatives need to be set against this wider background, since, taken by themselves, they are too limited and sectional to achieve the wider economic and social ends to which they are ostensibly addressed. It is hardly controversial to claim that adequate education and training of the workforce is a precondition of improved economic performance, and that one of the major objectives of education policy, the preparation of pupils for the world of work and adult life, is important for the individual. However, it is highly controversial to expect substantially improved economic performance to result from better training of the less educated part of the workforce. Notwithstanding some two decades of policy planning, innovation and targeted programme funding, insufficient evidence exists to conclude that increased vocational education in either quantity or quality, or any particular form of vocational education, will guarantee improved economic performance. It is, however, reasonable to suggest that attention to overall policies for and provision of

education and training, combined with comparable efforts in all other dimensions and with a concerted attack on such other factors as overall economic management, improved conditions for investment especially in research and development and infrastructure generally, would produce results.

The NTI consultative document rightly drew attention to comparative figure of activities of young people after compulsory in Britain, France and West Germany which showed Britain's relative numerical weakness at the beginning of the 1980s in all forms of training. While numbers in full-time general education were not markedly different for the years 1977-88 (27 per cent France, 25 per cent West Germany, 32 per cent Great Britain), the picture was remarkably different for full-time vocational education, apprenticeship (14 per cent France, 50 per cent West Germany) 14 per cent Great Britain) and young people in work or unemployment (19 per cent France, 7 per cent West Germany, 44 per cent Great Britain). A decade later, Britain still suffered from such comparisons.

Evidence of possible links between satisfactory economic performance and high levels of higher education has been largely ignored by exponents of the new vocationalism. Judged by the first major innovation of the new vocationalism, the YTS, proponents placed disproportionate faith and resources in practical, skill-based vocational preparation for the less academic. In this as in other respects, a broader policy framework and wider perspectives will ultimately be required if the basic objectives- economic, social and cultural-are to be achieved.

Consolidation and concentration of power: the manpower services commission and its successors

The new emphasis on vocational education and training, although evident in most developed countries, has in its UK form been associated with the ability and willingness of central government to devise, and pay considerable sums for,

large-scale initiatives such as the introduction of the YTS. The directive role of central government has proved characteristic and its full dimensions have only slowly emerged. This has been demonstrated particularly in the pioneering activities of the (now defunct) MSC, which set up and was responsible for the financing and management of the YTS, took over the financing of much non-advanced further education and the laying down of criteria and arrangements for the TVEI and its extended programmes, undertook a major review of vocational qualifications- and absorbed large branches of public funds during years when the education system generally suffered progressive budget cuts.

Even supposing the MSC's activities in the training field and their replacement of certain areas of local authority provision by direct financing were to be regarded as in principle catalytic rather than permanent, the intervention itself was revolutionary. Through the distribution of relatively large sums of money in an era of government financial stringency, the MSC influenced not just the organisation of education and training but what pupils learned. The purchase by cash of areas of the curriculum has been, so far, a feature of the new vocationalism.

The MSC, established in January 1974 under the Employment and Training Act, 1973 to run public employment and training services, was funded by and accountable to the, Secretary of State for Employment, after what one commentator at the time characterised as a struggle for control within the government in which Margaret Thatcher, then Secretary of State for Education and Science, was the loser. It was created to address Britain's lack of unskilled workers, poor economic performance' and anticipated rising unemployment levels. Its chief executive functions were defined then: to help people train for jobs and to obtain jobs which satisfy their aspirations and abilities; and to help employers find suitable workers'. The main aims for its first five-year plan were:

- a. to contribute to effort to raise employment and reduce

- unemployment;
- b. to assist manpower resources to be developed and contribute fully to economic well-being;
 - c. to help to secure for each worker the opportunities and services he or she needs in order to lead a satisfying, working life;
 - d. to improve the quality of decisions affecting manpower; and
 - d. to improve the effectiveness and efficiency of the commission.

Since none of these objectives, as stated, meet the criterion of well-specified performance outcomes, debate about whether or not they have been 'reached', or 'adequately reached' will be inconclusive. They do, at any rate, point in directions which were followed in many different ways throughout the 1980s. Although only obliquely touched upon in the initial aims statement, youth training became a very large and significant part of the MSC endeavours, an indication of the growing recognition that the education factor is critical in human resource and economic development.

The MSC initially appeared to interpret its role as tinkering with the example, in its programmes of training in special skills and of increasing school-leavers' chances of getting jobs. At this stage there was nothing to suggest that the MSC would come to play such a substantial role in the nation's education and training system as it was to assume during the 1980s. In its early years it was at pains not to stress its financial involvement. Its role in public training was 'to intervene in, or to provide, training only where that is necessary to support or supplement employees' efforts'. Employers should not 'come to rely on training at public expense instead of doing their own proper share' — a piece of unintended irony in view of the widespread failure of employers throughout the 1980s to contribute their full share to training. The MSC would complement of the Industrial Training Boards in sectors not

covered by them. In practice, the 'partners' did not accept the depth of the challenge there was a widespread assumption that training is a public responsibility, and the MSC's role expanded from gap filling to much more positive intervention.

In its rapid rise to power in the early 1980s, and its impact upon national education policy and practice the MSC, naturally, attracted a great deal of criticism, perhaps too much for the comfort of government. The MSC was always in a state of flux. The spread of its initial growth was matched by its rate of decline in the late 1980s. In 1987 the MSC lost responsibility for employment services, becoming purely a national training agency. At this time its name changed to the Training Commission. The Training Commission in turn was abolished, its function absorbed in 1988 into the Training Agency within the Department of Employment. By 1990, even the smile of the Cheshire Cat could scarcely be discerned, as the Training Agency, succumbing to yet another recognition, became translated into the Training, Enterprise and Education Directorate (TEFI) of the Department of Employment. Administration of most of the former Agency's programmes was taken over by the locally based Training and Enterprise Councils and quality and control of vocational education and training transferred to the NCVQ. This final dissolution was but the last of a bewildering to the end of its meteoric career.

Reverting to the programmatic developments as distinct from the structural metamorphoses of the MSC, we notice that in the post-NTI era the first set of MSC objectives was refined and developed, and the restrictions abandoned in a veritable cornucopia of government funding. Again the NTI marks this change. After identifying and analysing Britain's economic problems, the MSC set out a series of most ambitious targets which it would take the responsibility for achieving:

1. we must develop skill training including apprenticeship in such a way as to enable young people entering at different ages and with different educational attainments

to acquire agreed standards of skill appropriate to the jobs available and to provide them with a basis for progression through further learning;

2. we must move towards a position where all young people under the age of 18 have the opportunity either of continuing in fulltime education or of entering training or a period of planned work experience combining work-related training and education;
3. we must open up widespread opportunities for adults, whether employed, unemployed or returning to work, to acquire, increase or update their skills and knowledge during the course of their working lives.

Of these three it is the second that provides a platform from which, with sufficient willpower and application, it would be possible to achieve the much needed integration of education-training-work. Throughout the 1980s efforts were made to achieve this but there were powerful barriers to counted with. Some, like traditional A levels, were fought for with the zeal of revolutionaries at the barricades even though their retention as the so-called 'gold standard' signified a fundamental conservation and resistance to reform when the need for reform was so evident and, in broad terms, widely agreed.

The NTI analysis had implied that the schools had somehow failed their pupils, and a clear element of punishing the schools, and the LEAs responsible for managing them, can be detected in the activities of the MSC. In subsequent years financial provision was diverted from local authorities, or bargained for in return for MSC intervention in the school curriculum, as in the TVEI. The MSC took responsibility for a large slice of non-advanced further education in 1985; the new City Technology Colleges, however, were intended to be financed and managed by local industrial sponsors.

Educational implications of the new vocationalism

No explanation of the actions of the MSC and the general

character of the new vocationalism can overlook their origins, which were not the fruits of a carefully thought out and judiciously developed collaborative educational policy, but stands in a partial economic and political strategy-with constant undertones of ministerial and bureaucratic rivalries. This is the strategy which approaches the curriculum and organisation of education with the objective of improving British economic performance through improvement of skills levels in certain parts of the (prospective) workforce. The strategy considers the overall needs of the pupils only as hastily contrived after thoughts responding to or anticipating criticism, or assumptions that pupils' requirements are limited to their immediate need for jobs, rather than the development of their long-term potential, even though in policy documents acknowledgment was made of the need for continued learning into adulthood. Educators, including those of only a generation before, have generally taken a much broader view. One of them, Ben Morris, opens his 1955 essay on 'The Personal Foundations of Education' with these words:

Let us start from the perspective that education in an enterprise concerned with the development of persons-with persons growing up. This implies that it is concerned with the more and nourishment in young persons of their distinctively human powers. Inevitably then, considerations of personal maturity, of well-being of mental health, must enter into discussions of both ends and means in education.

Right as he was in sentiment, however, Morris was wrong in his sense of the inevitable. Young people were not seen at persons so much as figures in a grand if fragmentary design for national recovery. Insofar as the strategy has been centralist, directive, cash driven and on-sided in its instrumentalism, it has shown a dangerous- and ultimately self-destructive-tendency to bypass the very structures, processes and personnel that, properly enlisted, might have ensured the long-term gains so badly ended. Progressively however, perspectives has broadended; it is acknowledged, for example, that education is not reducible to pre-specified

learning outcomes and broader strategies involving wider partnerships have more recently emerged. But the process has not as yet led to conviction that policies and programmes are adequately comprehensive and coherent either in structural or in content terms.

While many parents and pupils would doubtless support the assumption of the new vocationalism in preference to traditional objectives, it is again necessary to be aware of the implications. Contained within it are the seeds of that nineteenth-century principle that the acquisition of a job, and the skills necessary to perform it well, judged by standards of competence laid down by the employer, is an appropriate and sufficient objective for certain sectors of the population. A democratic philosophy which incorporates the personal goals and aspirations of pupils, a vision of the good life and society is by no means inconsistent with the goals of economic revival and redirection. However, lacking in the new vocationalism is any serious attempt to interpret these values and approaches. Consequently, the seeds of social and economic segregation have been sown in the new vocationalism philosophy, compounding the structural problems.

Divisive tendencies

The new vocationalism has been accused on several counts of being divisive. The very number of major initiatives in recent years, conveniently grouped under that heading, suggest that something is being provided for every level of pupils—perhaps YT for the least academic, A level for the most academic, and other courses for those in between or who have not quite decided what they want. The possibility that linkages might be developed between programmes, courses and the students and young workers involved, to produce an educational/training ladder has not been ruled out, but nor has it been, until very recently, brought into the centre of policy-making. The NCVQ saw this, quite rightly, as a highly significant priority for a national education and training system and, from its inception, has worked to develop means to achieve it. This task must continue to be addressed and barriers removed

through collaboration between the numerous parties and interests involved.

Close analysis of the objectives of the early vocational initiatives suggests that the potential was there from the beginning for a comprehensive and unified system of education and training for all. For example, while the TVEI has been deliberately tightly controlled financially, schemes are potentially flexible in the form and content. That flexibility has already promoted creativity in the curriculum and access to all abilities in the TVEI in some schools. The clarification and simplification of vocational qualifications achieved by the RVQ and subsequently NCVQ may be viewed as stratifying, but in theory it equally encourage progression and the changing of career tracks and therefore implicitly the level of target qualification. The appraisal in the following chapters attempts to judge whether the process of acquiring skills, competences and vocational qualifications given prominence in the courses tend to free or rather to restrict and divide/segregate.

New vocationalism content

In examining the focus of the new vocationalism of Britain in the 1980s, it is worth recalling how widely the traditional definition of vocational education can be drawn if the will is there. Any learning can and perhaps should be vocational in part, emphasizing, as would be the case for example in Italy learning at home and in the family and not only that in the school or workplace. Depending on how it is treated and related to the wider environment, any content has vocational potential; the wider the definition of competences required for workers who are to be 'flexible', 'enterprising', 'self-reliant', 'adaptive', 'co-operative', 'responsible', 'task-oriented' and so on, the broader is the range of curricula and learning experiences that can be shown to be relevant. The new vocationalism its general policy statements and goals follows this path; but in its treatment of educational content, it frequently goes in the opposite direction, adopting on the whole rather narrow objectives, and confidently basing some

directive and specific policies on tenuous assumptions. The national YTS, rapidly introduced in response to the NTI, marked also the beginning of an emphasis on certain aspects of course content, for example; specific attitudes and motivation; work-based learning; the acquisition of measurable skills and standards; increasing opportunities to obtain nationally recognised qualifications. Successive opportunities to obtain nationally recognised qualifications. Successive initiatives have also contained some or all of these items. There are many unexamined assumptions about the relevance and applicability of learning in such initiatives. The problem of content cannot be resolved while effort is devoted to specifying for measurement purposes a separate job-specific domain of vocational knowledge. The resolution will lie in systematic work to map the vocational dimensions and potential of a wider strategy of education and training and their complex relationships-as learning/teaching tasks-to a small number of principal domains or fields of working life. These are strategic tasks which should be undertaken by national and regional research and development agencies working closely together and not by examining and accrediting bodies alone. In practice, course content and methods are too often a function of the highly specific requirements of these bodies. Large numbers of modularised, examinable courses provide a stock for various groupings and combinations, at the institutional level. In the process, as an HMI report observed.

Too often the broad aims of a course are lost, teachers abandon lesson plans and schemes of work and teach only to specified objectives. The result is that a teaching style predominates which has as its main objective the transmission of information.

By contrast, a latter HMI review of workbased learning as distinct from classroom based learning within the college itself conveyed a highly favourable impression:

The students derive considerable satisfaction and motivation from their work-based learning in college itself

conveyed a highly favourable impression.

The students derive considerable satisfaction and motivation from their work-based learning in colleges and it provides them with a valuable foundation for their subsequent careers.

As far as it goes, this latter point is satisfactory but it still does not meet the need for a coherent, vocationally relevant curriculum for all youth.

Work-based learning

Advocates of the new vocationalism argue that the needs of the employers and the economy have never been given sufficient priority in the UK. The stated objectives of the YTS, CPVE, TVEI and particularly of the CTCs all emphasise familiarity with the world of work and positive attitudes to it. Motivation, according to some forms of the new vocationalism philosophy, will be improved by learning through work, in the workplace, with trainers and workers in industry rather than with teachers of what are sometimes viewed as irrelevant subjects in a school setting. The work-related (as distinct from work-based) curriculum for schools made considerable progress during the 1980s to the point where its value was affirmed in the preamble of the 1988 Education Act and in the guidance given for the cross-curriculum theme of economic and industrial understanding. Many local authority Curriculum Statements acknowledge the value of linking the school curriculum with working life. If tokenism or the downgrading of the work dimension in mainstream secondary education are to be avoided, however, a detailed curriculum design grounded in the principles of 'entitlement' and 'universalisation' is needed. The national curriculum for schools does not succeed in this respect, due to its traditionalist approach to subject disciplines and the weakness in practice of the curriculum themes.

The new vocationalism is firmly associated with a new emphasis on work-based learning conceived as structuring learning in the workplace and providing appropriate on-the-

job training/learning opportunities. To these, Levy in her seminal work of MSC on core skills added 'identifying and providing relevant off-job learning opportunities'.

The case for work based learning rests on the expectations of increased motivation of pupils, who, it is claimed are more inspired by concrete than theoretical activity; and on the likely benefits of association with people doing a job. These are not new arguments but have been advanced and demonstrated in practice by such notable pedagogical pioneers as Victor Della Vos, director of the Moscow Imperial Technical School in the 1860s and 1870s who influenced president John Runkle of the Massachusetts Institute of Technology in the 1870s and Calvin Woodward, who in the 1870s became a leading critics of the university-based manual training school. Later, in Germany, Georg Kerschensteiner used the Munich continuation schools for which he was responsible as a vehicle for a new kind of civic education based on trade training. It is ironic that at the beginning of the present century, British official reports were extolling the high degree of organisation of the Munich system.

Worked-base learning has long been known to have intrinsic advantages which can confer a sense of partnership. Trainees are motivated by the real nature of the activity and learn from its direct consequences. Performance in the workplace is felt to have relevance. Trainees can learn to act systematically and efficiently, to fit naturally into the team in which they find themselves; and it may be better for them to train for working life by means of work-based learning because they believed in it. On the other hand there can be and often are disadvantages. The work can be repetitive and limit the learning process; the supervisor can exercise a negative function. In Germany, where work-based learning is most developed, considerable weight is also given to the complementarity of off-the-job vocational education. In the UK, the YTS, in associating itself clearly with work-based learning, has demonstrated more about its possible uses in

creating job chances than its wider educational value. Certainly the spotlight put on work-based learning in individual schemes will increase understanding of its potential and practice. What is sorely missing, however, in the programmes that followed the NTI, is that wide sense of social, civic and educational purpose, that understanding of the relationships that must be developed between knowledge, values and practical accomplishment, so evident in the thought and practice of the early advocates of work-based learning.

Competency-based national qualifications: the national council for vocational qualifications

'One thing is certain, labelling by qualifications is becoming more common and more necessary'. Thus did George Tolley, one of the architects of the NVQ system, state his thesis, adding that qualifications were too often in practice a barrier rather than a help to learning. The new vocationalism gives priority, not to a abroad-based development process for either individuals or society, but to the acquisition of measurable skills and levels of competence and the construction of frame-works for their validation. It is a major aspect of the policy that more young people should be qualified, in their own interests, it is said, but particularly for the sake of the economy. In its initial statement of purposes and aims, the NCVQ drew attention to the fact that only 40 per cent of the UK workforce held relevant qualifications, a considerably lower proportion than in other major industrial countries with which the UK was competing. From these concerns have followed two major development; emphasis on accessibility of appropriate nationally recognised vocational qualifications; and a partial link-up with the second system.

It is not of course necessary to defend prior and existing arrangements for the education and training of the 16-19 age group in assessing the contributions of the MSC and its successors. There is much evidence to support the MSC belief that the pattern of vocational qualifications needed reform and rationalisation, for example, Mapping and Reviewing the

Pattern of 16-19 Education, which recommended clarification and review of the courses and provision for the age group. In describing the existing set-up as a jungle, the authors commented:

The number of qualifications offered is huge. They can be pursued through differently conceived courses in differently organised institutions. They serve overlapping purposes and often reflect different schools of educational thinking. The different systems of qualifications offered by the dozens of certificating bodies do not readily reveal compatibility in sequence, standards or structure. There is no unifying principle, no underlying structure to be uncovered by the inquirer. The provision looks complex at first encounter and remains complex on close investigation.

This confusion produced obstacles for students in making well-informed choices, in progressing from one course to a more advanced one, and in transferring from one 'track' of qualifications to another when deciding to change career. It denoted a fundamental confusion or, rather, lack of national policy and a failure to come to grips with the necessity for large-scale reconstruction-not destroying but producing clear patterns of relationship, articulation and an overall intellectual coherence in provision for and requirements of students.

In the interests of a better qualified and more mobile workforce, it was natural that the new vocationalism should set about tackling these obstacles. The introduction of a YTS, which stressed the acquisition of vocational qualifications, gave added momentum. The RVQ which took less than a year to complete, was instructed:

To recommend a structure of vocational qualifications in England and Wales which:

- is relevant to the needs of people with a wide range of abilities;
- is comprehensible to users;

- is easy access;
- recognises competence and capability in the application of knowledge and skill;
- provides opportunities for progression, including progression to higher education and professional qualifications;
- allows for the certification of education, training and work experience within an integrated programme.

This highly influential review group proposed a unified national framework for vocational qualifications classified according to levels of student attainment or competence, and the accreditation of existing awards by a new National Council for Vocational Qualifications.

The simplification and articulation of vocational qualifications and the facilitation of progression from one course to another were long overdue. The centralistic and energetic, not to say directive and one-sided, way in which the problem of formal qualifications has been tackled has nevertheless provoked antagonism. Whether this could have been avoided, given the deeply entrenched interests at stake, is a moot point. Power-coercive strategies have become widespread in British education at the national level. Governments no longer believe in the necessity of carrying the research, scholarly and teaching communities with them in large-scale change programmes for which, they rather tenuously argue, they have the mandate and the at least tacit support of the wider community. The risks of failure in such approach are high and, the need for reforms notwithstanding, their design and implementation require a more consensual approach if they are to take root.

Characteristically, the NCVQ established in October 1986 following the RVQ's report, acted swiftly in staking out territory and establishing a strategic role for itself—partly, one suspects, as a means of survival. It lacked legal powers and, at this stage, was dependent on support and co-operation from

the award agencies, industry, the professions and the educational and training establishments. That dependence necessitated an emphasis on developing a framework to which other bodies, retaining a high degree of independence, could nevertheless relate.

By the early 1990s, in NCVQ had established a comprehensive framework for validating-or giving its imprimature to-those vocational qualifications offered by other agencies which met its criteria for National Vocational Qualification (NVQ) status. The NVQs are related to both a level and an area of competence. Five levels of NVQ have been defined within an overall framework and their parity of learning, from GCSE to higher degree level, also established. Areas of competence have been defined in broad terms across a wide spectrum of fields of employment.

An NVQ is defined as:

A statement of competence clearly relevant to work and intended to facilitate entry into, or progression in, employment and further learning, issues to an individual by a recognised awarding body.

The statement of competence should incorporate specified standards in:

- the ability to perform in a range of work related activities and
- the underpinning skills, knowledge and understanding required for performance in employment.

An NVQ statement of competence is thus a kind of performance profile which specifies units of competence and, within each unit, usually between two and four elements of competence. Performance criteria have been established as the standard for each element of competence, and each is individually assessed. Units of competence are independently recognised and certificated, and unit credits are accumulated

towards achieving a statement of competence, or NVQ at a particular level. During the last 1980s students could purchase from the NCVQ a National Record of Vocational Achievement which included details of their existing qualifications, unit credits and current programmes of study. In 1991, this was replaced by a National Record of Achievement (NRA) issued by NCVQ which is a summary record in common format for both school—and non-school-based education and training achievement. The NRA, now widely issued to Year II school students as well as trainees, builds on the experience of both are NRoVA and of the education-based movement of the 1980s which saw Records of Achievement issued locally by many schools.

In common with Scottish Vocational Qualifications (SVQs), NVQs have been grouped into eleven occupational areas; tending animals, plants and land; extracting and providing natural resources; constructing; engineering; manufacturing; transporting; providing goods and services; providing health, social care and protective services; providing business services; communicating and entertaining; developing knowledge and skill.

The competence standards for different NVQs—as for SVQs—have been derived from analysis of employment functions, by the NCVQ—and SCOTVEC—working with the some 130 national industry led bodies established by the then Training Agency; that is, they rest on the inter-subjective judgments of the principal ‘consumers’. According to Jessup there have been some difficulties in achieving what the NCVQ many educators, the CBI and various other groups regard as sufficient breadth in some of the standards. For some industries, statements of competence have been criticised for reflecting the current, often narrow jobs which people perform, and ‘considerable effort’ is now being exerted to broaden this concept of competence. However, such effort will need to be Herculean since ‘the underpinning skills, knowledge and understanding’ defined as a necessary component of NVQs, are not at all obvious, not do they exist in

some ready-made form. They should be defined through the kind of curriculum-mapping, which, while it would include, would certainly go beyond, the interests of institutionalised bodies of 'consumers'.

The competency-based NVQ framework shows a much greater concern for outputs and outcomes than, to use its own system assumptions, inputs and processes. While it is largely unconcerned with how students reach certain specified levels of competence, the nature of competences specified is biased towards those which are achieved in work-based rather than school-based situations. This tendency is probably encouraged by the fact that industry rather than education representatives have the main role in drawing up competences.

Some years of development, implementation, systematic research and evaluation will be required before firm judgments can be made about the overall value and impact of the NVQ framework in establishing nationally recognised standards for existing vocational qualifications, providing clearer pathways for individual progression between qualifications and meeting good standards for curriculum development and assessment. In their 1988-1990 report on national vocational qualifications in further education, HMI were suitably cautious, preferring description to appraisal in dealing with the NCVQ. The NCVQ, at least, is determined that the framework will indeed become well established in British vocational education.

In this effort it is well supported by the national education and training targets of 1992. This presents yet another formulation of goals, such as higher basic attainment, more high-level skills and lifetime learning (for example, 'by 2000, 50 percent of the work-force to be qualified to at least NVQs. The targets give considerable prominence to NVQs. They have been adopted by central government, major education and training interests and widely endorsed business interest. According to Sir Brian Wolfson, Chair of the National Training Task Force, the targets are intended to focus

our full attention on the need to raise standards of achievement in education and training in Britain so that we can secure the competitiveness of the British economy and a higher standard of living for Britain's people. The Targets are necessary, urgent and ambitious. If they are to be achieved, everyone in business, education and training must be involved.

Thus would the NVQ framework come to play a major role in defining the nature of new vocational awards and revisions to existing vocational awards. Such a prospect calls into question some of the basic presuppositions of the framework. Can or should curriculum planning teaching and learning be determined by 'outcomes' which the necessity are abstractions from their social contexts of use and application? It is sufficient to define as an 'outcome' a skill or capability free of its human, mental context of will, disposition, preference, choice, value? Are there robust and widely agreed routes or sequences whereby outcomes can be linked or related into learning and teaching pathways? Is 'level' an artifact of the norm established by performance tests on large groups, a pragmatic device agreed by committees or a derivative of some cognitive theory? What is the nature of the process whereby courses are 'mapped' on to or through 'levels' and is 'course' equated with syllabus or the experience of learning? Should educational designs be the result of the 'pull' of assessment and certification, or should not assessment follow from comprehensive designs for and development work on goals and purposes, curriculum and teaching-learning processes? The greater the visibility and impact of the NCVQ framework, the more urgent will it become to address these and similar questions in the public marketplace of well-informed educational discussion and debate, even at the risk of denting somewhat the image of collective enthusiasm and the rather excitable promotional apparatus that have been built up in the effort to gain 'endorestment' for the outcomes approach.

The NCVQ has been active in developing a programme

of General NVQs aimed at the 16-19 age group in schools and colleges. These have been piloted during the 1992/3 school year, initially in five broad occupational areas with others to follow later. Their aim is, by combining three core skills and a particular vocational area, to provide a broad-based vocational education as a foundation from which students can progress either to further and higher education or into employment and further training. With the level 3 NGVQ designed to be of comparable standard to A levels, GNVQs are intended to provide 'a genuine alternative to A level qualifications' for the increasing number of 16-year-olds remaining in full-time education. Indeed in 1993, Education Secretary John Patten set as an objective 'having a full half of our 16- and 17-year-olds studying for General National Vocational Qualifications ... with one in four 16-year-olds taking GNVQs by 1996.

Like NVQs, the GNVQs are related to levels and areas of competence, specified in the form of outcomes to levels and areas of competence, with credits accumulating individually towards the final award. The GNVQs are set out in a 'statement of achievement', rather than a 'statement of competence' such as provided by the NVQs. The new avenues opened up by GNVQs were soon seized upon by the course-providing and examining bodies. Thus, in full-page advertisement in national newspapers, BTEC urged readers to take up the opportunity presented by 'the first vocational qualifications recognised throughout the country that carry the same respect as GCSEs and A levels'. Many questions remain not only about the comparability of level 3 GNVQs to A levels but also about the linkages with NVQs and other parts of the youth and adult training world and their acceptability in schools.

It is instructive to compare the emerging structure of vocational assessment and accreditation with the moves during the same period to establish the national curriculum in the state schools of England and Wales following the 1988 Education Act. The outcomes-based structure of the national

curriculum has ten foundation subjects, and the other foundation subjects are technology, history, geography, music, art, physical education, and for pupils in key stages 3 and 4 a modern foreign language. The much disputed assessment design for the national curriculum envisages that each subject are is broken up into a number of attainment targets, for each of which up to ten levels of attainment may be specified, in the form of statements of attainment. National curriculum assessment, as intended in the initial design, occurs in relation to each statement of attainment, paralleling the NVQ assessment of each element of competence. Four national curriculum key stages are defined between ages 5 and 16, and students are assessed at the end of each stage on a criterion-referenced basis DES, committee chaired by Sir Ron Dearing with has recommended considerable simplification, but not an abandonment, of the basic framework for school curriculum and assessment. Both in terms of the fundamental assumptions and the procedures adopted to outline national frameworks for local action there is at least in principle, a growing convergence between the school and training institution, between mods of general education and models of specific-vocational preparation.

This convergence was taken further by the 1991 proposal by the Secretaries of State for Education and Science, for Employment and for Wales, to integrate academic and vocational qualifications into a new a new system of Ordinary and Advanced Diplomas. An Ordinary Diploma might represent an achievement of four to five GCSEs at national curriculum levels 7-10, or equivalent vocational qualifications, or a mixture. An Advanced Diploma might represent two A levels at grade C or above, an equivalent might represent two A levels at grade C or above, an equivalent combination of A or AS levels, or equivalent vocational qualifications, or a mixture. An Advanced Diploma might represent two A levels at grade C or above, an equivalent combination of A or AS levels, or equivalent vocational qualifications, or a mixture of all three. The Secretaries of State indicated they would consult widely on the proposal, and at the time of writing, the

Diplomas remain under consideration.

The growing convergence of general and vocational education as such is to be welcomed, but it does bring into question the nature of the common ground thereby created. Does it constitute an educationally sound and defensible response, or is it a retreat into an ultimately self-defeating redoubt where critical thinking, creativity, knowledge and understanding are constantly cramped by hypothesised job needs. There is, moreover, a depressing familiarity in the introduction of yet another battery of qualifications. What needs are served? Will the public, the students, the employers, further and higher education institutions understand and take to the new layer and how will the new credential relate in practice to what already existing? Such questions will resurface many times as well examine one of the principal emblems of the new order, namely 'core skills'.

Core skills

The character and objectives of the YTS, the first major initiative in the new vocationalism, deserve detailed study because its development most clearly reveals the single-mindedness of interpretation and the now familiar philosophical oversimplification which tends to follow. Later developments first increasingly easily into it. The multiplicity of objectives and, most clearly, the switches of emphasis of the YTS reveal the evolution of what can now be quite distinctly seen as a major platform in the new vocationalism; and nowhere more clearly than in one of its four objectives—the acquisition of competence in a range of transferable core skills.

The notion of a definable set of core skills to underpin all learning also attracted the attention of the DES, but it has in practice played a larger role in the training debates initiated by the MSC than in the national curriculum work of the DES. Interest in core skills emerged from earlier studies of the idea of skill acquisition, but the idea of determinate, clearly definable set of core skills that could provide a common base for and thread in the structuring of separate vocational

courses had not reached the stage of development necessary to satisfy the functions attributed to it by the MSC in the YTS, let alone to make progress towards an interpretation of core learning which is relevant to both education and training.

The long-established training term basic skills had by the time the YTS was launched broadened into generic skills, mainly under the influence of work abroad, particularly in North America. The MSC drew on this and experience from their special programmes, for example Unified Vocational Preparation (UVP), which appeared to demonstrate that individuals performed better and were more able to adapt to change if they had developed competence and practical experience in a range of related jobs and skills rather than in one context only. Studies on grouping work skills, intended to develop checklist to make the most of training opportunities for preparing young people for working life, were being undertaken in a variety of contexts, some financed by the MSC. A number of different ideas were being investigated and functions for core skills identified, for example:

- as a frame of reference for supervisors/teacher;
- as an instrument confirming acquisition of a range of skills;
- to identify ways of extending learning opportunities of trainees;
- to supplement induction and guidance;
- to produce a matrix of skills applying to different training activities;
- through this to highlight communality of basic skills between jobs and hence transfer;
- to help in monitoring and recording individual progress;
- by providing information on accomplishment, to be useful as a trainee credential;
- as a tool for self-assessment.

This array of functions was appearing in pilot work contracted by the MSC. The Basic Skills Analysis of Freshwater was intended as a simple and quick analytical tool with which to examine and job or training activity'. However, it seems unlikely that this objective could be achieved considering the number and variety of situations in which such activities occur. Too many variables were being concurrently addressed and the framework for analysis was at one and the same time too complex and lacking in rigour.

Thus the word 'skills' came, in an abstracted way, to incorporate areas of social and life skills, process skills and even learning skills. There were skills as descriptors; there was the ideas of generic skills or skills to take into working life, and there were process and learning skills there were 'transferable' skills and 'transferring' or metal-cognitive skills. The term was broadended to an alarming extent, and in danger of losing any clear reference. It was as if a whole educational/training philosophy and set of programmes was to be encompassed by the single term 'skill'. What is important to hold on to in the terminological-and often conceptual-confusion is the ideas that knowledge can should be applied, that there are practical tasks to perform and that knowledge, education and training can be so managed as to facilitate application and use.

In supporting or undertaking analytical and development work relating to skills, the MSC was not alone. Similar developments were evident in various sectors of the education and training world. An example is the City and Guilds of London Institute Vocational Preparation general 365 examination introduced in 1981/82, which contained a basic core of skill clusters including; communication skills and numeracy; economic, social and environmental studies; vocationally oriented studies; extension studied; guidance; process skills and non-compulsory work experience. Assessment of this course was partly by tests, partly by ratings recorded on a profile. The concern of the Institute with industry-based definitions on competence, which attempt to identify the transferable aspects, was reflected in this course.

Such definitions identified occupations in industry and duties in occupations which need competences. Each required a combination of skills, knowledge, attitudes and experience. 'Skill' has been used here, as elsewhere, in a wide and often confusing sense.

Concern with 'core skills' was emerging simultaneously in the education world. In the design of the CPVE the single most important ingredient is the core of ten 'competences' are personal and career development; industrial, social and environment studies; communication; social skills; numeracy; science and technology; information technology; creative development; practical skills; and problem-solving. They were to function as a checklist for achievement, a stock of course objectives and to integrate with vocational studied. Yet again, 'skills' were loosely defined and used ambiguously. Considerable work had also been done by Her Majesty's Inspectorate in their studied of 'core entitlement'. In this, work skills are treated as elements within-and given meaning and value by-areas of experience, for example, scientific, technology, spiritual.

The idea of 'core skills' or 'generic competences' has also been drawn into the NVQ framework- if still in a somewhat awkward fashion. Seen as a way of helping establish and maintain breadth in the statements of competence of different areas of learning, core skills are incorporating into the NVQ system in the same format as modularised units of competence, thus attracting unit credits within the national system of credit accumulation and transfer. The core skills of problem-solving, communication and personal skills, would be, as a matter of course, developed as an integral part of occupational competence leading to an NVQ.

Core skill units in communication, application of number and information technology are incorporated into all GNVQs and are separately assessed from the vocational units at both levels currently offered.

The then National Curriculum Council in March 1990,

following a ministerial request, identified six core skills (problem-solving, communication, personal skills, numeracy, information technology, modern language competence) which it argued should be promoted in post-16 curricular. It could not, however, at the time see how they could become an integral part of all A/AS levels. Once more, the term 'skill' is used extremely loosely and in a manner that fails to distinguish either non-skill elements in 'competences' or the different nuances of 'skill' in different contexts.

Transferability

The NTI interpretation of the requirements of economic recovery always recognised the need for a trained workforce able to move from one job to another, and perhaps from one sector of industry to another as technological change and other factors kept the labour market in a state of constant change. Having identified a need, it is characteristic of the new vocationalism to come forward rapidly with a solution-of sorts. The opportunity to obtain measurable skills built into the YTS would in itself facilitate worker mobility, it was believed, because they would have general currency, but in order to make an exact fit of the objectives of the YTS and perceived economic need, the core skills had to be defined as 'transferable core skills'. Stating the objective of the YTS in these terms passed the problem-possibly the key training problem-on to those responsible for defining transferable core skills in individual training schemes, and the trainers who provided the opportunity for learning them. This was to locate a quite fundamental intellectual and development problem in a part of the training system which was not equipped to handle it. Thus the idea of transferable core skills implied an almost magical ingredient in what otherwise might be routine measurable competences. Not surprisingly, in practice, the YTS had difficulty achieving this, as we see later.

The suggested way forward was to identify the skills regarded as common to a number of jobs, and place significance on their acquisition in a strategic way-that is, an meta-cognitive instruments or tools of learning and not only

as specific accomplishments for given situation (and this is what the YTS originally intended in core skills). Consciousness of the trainee's mastery of the skills, both by trainee and trainer, so the argument ran, should lead to recognition by each that the trainee can do other things than those he has performed. The relationship between situations of application and use, consciousness, the reflective use of skills and the specific mental or mechanical accomplishments denoted by individual skills is, however, far from clear. Research on how skills are understood as well as used in the workplace and of the meta-cognitive structures and process involved is essential to the success of teaching transferability. Attention would need to be directed at the conditions for learning and application in the new environment and this raises the question of a continuing training function related to job mobility.

True transferability is based on functions and processes that operate at a deeper level than observed performance in test conditions. Transfer is possible, at the surface level of performance, because cognitive and other mental structures are developed to the point where larger amount of quite varied information can processes, or experience reflected upon and analysed. Many factors affect the operations of these structures, both personal to the individuals pursuing them, and environmental or interpersonal. Awareness of the possession of a skill and the possibilities for its transferred use must also be present. Research on meta-cognition suggests that 'people can become self-aware if they are placed in a situation where they have the opportunity to be, are motivated to be, and are suitably trained'. It follows from this argument that transfer of skills can be taught as a tactic or as a strategy, not independently of subject content and practical application but in such a way as to render such content meaningful and useful for the learner.

What is common to all situations is the individual who enters them. In order to maximise transfer, then, it would follow that one should maximise the strategic capability of the

individual doing the transferring, that is that individual's ability to metacognize.

That ability to metacognize may be developed more easily through concrete examples, and so training has to be conducted in a manner such that the individual trainee is encouraged to be self-aware, to plan, to monitor, to match strategy with task demands'. What we might emphasise in this approach is the use of core 'skills as themselves a meta-cognitive strategy. Transfer, then, is sought through the development of the individual's cognitive awareness of tasks and their interrelationships. The YTS, as originally defined, might have facilitated transferability, but in its later form, as described in Chapter 6, seems to offer less potential. Greater attention to the forms and processes of meta-cognition, to the complex tasks that students must undertake and research on the structuring, processing and application of work-related knowledge are needed if more powerful frameworks for mapping and assessing competences are to be erected. Such research and analytical work should be at least as high a priority for the national agencies, especially the NCVQ as the development efforts going into schemes for classifying competences and tying assessment procedures and qualifications to them.

Jessup discuss the issue of how to assess students' ability to transfer learnings from one context to another within the range required by elements of competence within the NVQ framework. He noted that:

Coping with variation, as opposed to performing routine and proceduralized functions, provides a primary distinction between low level and high level occupations in the NVQ framework. In particular, coping with variation which cannot be anticipated is a characteristic of the most demanding jobs, at the forefront of development and innovation in a profession.

He argues that in practical terms:

For most assessment decisions, particularly those at higher and professional levels, the sum of the performance

evidence is unlikely to be sufficient to ensure that the candidate could cope with future variations which might occur. This is where demonstrations of performance need to be supplemented by assessments of knowledge.

Such knowledge should concentrate on:

- (a) the knowledge of the variation in circumstances that might be expected and how practices and procedures should be modified to meet different circumstances, over the range which is expected;
- (b) an understanding of the principles or theory which explain the nature of the function or activity to be assessed.

Reference to knowledge and theory, although not entirely absent, were sparse in the early days of the YTS; the acknowledgment of the part they play in skill formation thus represents an important step beyond the dominant elements in the skills debate of the 1980s. Links are being adumbrated, if yet to be fully worked out, between; the research on transfer; theories of meta-cognition; competence in the NVQ sense; and knowledge frameworks. This is potentially fruitful line of inquiry, analysis and development work. Still to be developed are powerful curriculum frameworks that, for the major occupational fields, bring together knowledge content, student competence and student-teacher learning strategies, all in a well-marked landscape of the changing world of work.

Summary

Trials and experiments have been taking place to determine appropriate forms and content of education and training at the centre of a rapidly evolving government policy for youth. Scarcely have needs been defined and agreed upon, and experimental projects launched, than structures for managing and organising new strategies and programmes have been erected and others dismantled. The introduction of the TVEI, YTS, CPVE, GCSE and curriculum reforms in schools hasten the collapse or contraction of one kind of education and

training and access to working life, and foreshadow a new pattern likely to take effect nationally in the years ahead. Such far-reaching and rapid changes on the scale envisaged are unusual in any national system and always difficult to accomplish. Some changes are taking place in other countries too, but the rate and extent of developments in the UK throughout the 1980s is very largely explained, if not necessarily justified, by the crisis in youth unemployment of the early 1980s and, at a deeper level, long-term structural weakness in the economy and dissatisfaction with the education and training systems.

The new vocationalism is, not least, a political phenomenon. Britain has been bracing itself and changing direction. Thatcher's Conservatism was a driving force in the 1980s, but it was not the whole story. There has been for some time a sizable body of public opinion in the UK, not only on the political right, which supports the charges that schools have been failing to prepare pupils for economic reality; that standards of achievement, discipline and motivation have been allowed to fall; that, judging by results, public expenditure on education is not efficient. The case for reform of training and the structure of vocational qualifications was strong; existing apprenticeships were increasingly out of date, too few young people had formal training, a sense of lack of purpose was common among the non academic. What were introduced for the 1980s and beyond were centrally devised schemes for training young people-pre-work, in the workplace and throughout the years at work. What must be evaluated is what they are intended to do, and the nature of the relationship between these vocational initiatives and 'education', and to use the favoured term, the outcomes of the reforms as distinct from their stated objectives.

The various initiatives undertaken mainly at the behest of central government and its agencies in Britain have been considered. Together, they constitute what has become familiarly known as the new vocationalism. Appraisal of these initiatives must acknowledge the inadequacies of many

traditional practices, and the incoherence of the structures that had been added to, piecemeal, over the decades prior to the establishment of the MSC. These inadequacies have not been fully addressed, however, and the rapid succession of half-formed programmes and incomplete changes has created many difficulties for students, employers and employees. At the same time, the intensive drive towards vocational relevance has resulted in a decontextualising of skills and an undue analysed if we see them against the historical background; the contemporary problematique of the education-training nexus has roots deep in the national culture. Its resolution will not be independent of the continuing impact of that culture.

Critique of Classroom Skills

In E.M. Forster's novel *The Longest Journey* the experienced school master Herbert Pembroke and his new assistant Rickie make their first entrance of the school year into the preparation-room to meet their house of boys. The two men take their seats. Each chair had a desk attached to it, and Herbert flung up the lid of his, and then looked round the preparation-room with a quick frown, as if the contents had surprised him. So impressed was Rickie that he peeped sideways, but could only see a little blotting-paper in the desk. Then he noticed that the boys were impressed too. Their chatter ceased. They attended.

Such pedagogical devices are familiar enough: we may remember similar examples from our own school days, perhaps with amusement and affection, as forming part of a particular teacher's personal set of routines and eccentricities. but it would be odd, we might think, to see them as anything more — as defining what competent teaching is, for instance, so that a good teacher would be one who had mastered the raised desk-lid technique and similar tricks. This kind of temptation however does make itself felt when sophisticated accounts of the supposed skills and devices of teaching are available. For a list of skills, since it appears to spell out what a teacher can be expected to do, meets the fashionable demand for accountability by promising a relatively clear-cut way of distinguishing competent teachers — and course for training

them - from incompetent ones. it accords well with the spirit of a time which has largely lost confidence in the less tangible idea of specifically educational ends and so in educationally worth while learning as the criterion of the quality of teaching.

Elaborate analyses of teaching skills have existed in the United States for some while. Programmes of competency - or performance-based teacher education, an approach underpinned by the assumptions of behaviourist psychology and involving the specification often of many hundreds of skills and sub-skills, have been widely adopted there. This movement has not gained much of a foothold on this side of the Atlantic in its original form, but there is now an influential literature here with certain affinities to it. I refer to the material produced by the Teacher Education Project, mostly in the form of 'workbooks' published for the Project by Macmillan. these cover topics such as mixed ability teaching, questioning, explaining and class management. The Project was based in the universities of Exeter, Leicester and Nottingham. It was sponsored by the DES and the workbooks, intended for both trainee and practising teachers, are described on their covers as 'DES Teacher Education project Focus Books'. This does not of course mean that they bear imprimatur from Elizabeth House, but a suggestion of at least semi-official status is conveyed to the impressionable and is likely to increase the Project's influence. The Project also employs a rhetoric, similar to much other recent propaganda for skills, that speaks of the teacher as a craftsman, one who plies a trade analogous to that of a plumber or joiner and who should take pride and pleasure in honing his or her skills.

We must emphasize that we have not chosen that project for my critique because I think it is in any general way misguided or pernicious. we have no quarrel at all with much of its philosophy of teaching and teacher training. It would be hard to disagree with its emphasis on the importance of classroom practice in training and we share the belief that an inductive approach which starts from students' own experiences as teachers and learners is the best way to raise

'theoretical' questions on initial training courses. we concerned here only with the way the Project conceives of 'teaching skills', thought, as I shall try to show, the ramifications of that are extensive enough.

Even to raise these issues, I have found, can provoke surprise and outrage. let me make it clear that I am not denying that teaching requires ability or skillfulness, nor imagining that almost any adult can stagger into a classroom and do the job. this is so far from being what I believe that my position could actually be summarized by saying I think teaching is more complex and difficult than can be expressed by calling it a craft or collection of skills. Confusion arises here when we shift between two different senses of 'skill' and its cognates. At the risk of being laborious I will spell these out. The first sense is that in which we can all agree we want skilful teachers in our schools, where this simply means we want ones who can do the job well instead of those who cannot. Accepting this does not commit us to the view that a good teacher is one who had mastered a number of separate and specific skills. This is the second sense of the term, and it is on this that my criticisms are intended to bear.

It is worth emphasizing at this point that wider issues are at stake than simply how teachers are to be trained, how their jobs are to be conceived and how they are to be assessed. Our whole understanding of the nature and function of education is involved here. To whole understanding of the nature and function of education is involved here. To put 'skills' at the heart of our conception of a teacher is to come close to conceding that teaches have nothing to say about the ends of education, no vision of human potential or of the way life might be lived to communicate to their pupils, but are experts in means only. For that is what a skill is: it is know-how, not understanding of or insight into that for the sake of which the know-how is exercised. It is not fanciful to see that view of the teacher as craftsman as a necessary concomitant to the increasing shift towards central control of the curriculum and the growing introduction of vocationalism into schools at the

expense of those activities sometimes thought of as truly 'educational'. Thus pupils will be trained in the skills that supposedly answer to the needs of industry and commerce: what is worth teaching will be decided by higher authority, and the role of teachers will be simply to implement those decisions.

The Project offers no explicit discussion or defence of what it understands by a 'skill'. There are some suggestive remarks in *Classroom Teaching Skills*, a book partly intended to explain and justify the work of the Project. The minute analysis into hundreds of skills and subskills characteristic of competency and performance-based programmes is repudiated, not so much on principle, however, as because the skills that have been distinguished in these programmes are often faintly ludicrous. What the Project regards as a skill can be judged to an extent by the examples given. One of the more recent workbooks, *The new Teacher*, lists what it calls 'skills and attributes of student teachers'. Here are the first six of the seventeen skills named:

- Expresses ideas effectively;
- Reacts favourably to criticism;
- Has a good educational background;
- Comprehends subject matter;
- Assumes responsibility;
- Plans carefully;

In the same workbook we find that 'the skills model of teaching is characterized by these assumptions':

- 1 Practical teaching consists of skills;
- 2 Skills can be identified and isolated;
- 3 Skills can be broken down into component parts;
- 4 Skills can be studied and taught;
- 5 Skills can be learned;

- 6 Skills can be reflected upon and refined with practice;
- 7 Skills can be evaluated and assessed.

Some of the examples, it is immediately noticeable, do not sit comfortably with the 'assumptions'. For instance, it is not obvious that assuming responsibility is something which you can learn as a general skill, as if someone might learn to take responsibility as captain of a sports team and could then be relied upon not to shirk their responsibilities as a captain of industry. The best and fairest procedure seems to me to address the 'assumptions', since these give us the most clearly articulated picture of the Project's understanding of a skill.

It shall take the 'assumptions' in the order that lends itself to most coherent discussions, and start with, 'Skills can be broken down into component parts'. Why should we want to break them down like this? The answer Wragg suggests is that although we need to beware of analysis into minutes items of behaviour the unanalysed notion of 'teaching' is simply too broad to be of any use. If people want to be better teachers we have to reduce what that involves to manageable units if we are going to help them. The question remains, however, exactly what it is that is to be analysed. Is it 'teaching', or as Wragg implies a few lines further on, areas of teaching such as class management and questioning and explaining, or is it elements of these areas, like 'Selects and organizes a variety of materials'. Whether you end up with sub-skills so minute as to be trivial depends on the level on which you start your analysis. Breaking down skills, rather than teaching, into component parts risks precisely the trivial outcome Wragg wanted to avoid.

Even where a skill can be broken down logically—for example, the skill of driving a car can be analysed into such sub-skills as making smooth gear changes and looking out for unwary pedestrians—what is logically a component part may not be a psychologically useful component, one that can helpfully be separated for the purpose of learning. No driving instructor takes a pupil out on the road with the instruction

'Never mind the pedestrians today – we'll concentrate on the gear changes. These sub-skills have to be practised together, as is often the case with sub-skills, and it is getting the relationship between them right that is the problem for pupil and instructor. In The New Teacher 'understands children and how they learn', is effective classroom manager' and 'keeps satisfactory discipline' are listed as separate items. No doubt these are logical components of being a good teacher' in that understanding children and how they learn and so on are part of what we mean by being a good teacher. But again this does not necessarily mean that it is helpful to separate them for learning purposes. Student teachers who do not grasp that good discipline is to a great extent achieved through understanding how children learn and managing the classroom properly often get themselves into difficulty. Of course it might be replied that there is no intention that these sub-skills should be acquired separately, yet in that case, can in default of any account of the relationships between them, what is the point of the analysis? The next two assumptions, 'Skills can be studied and taught' and 'Skills can be learned' certainly suggest the analysis is made for learning purpose.

Perhaps at least part of the point is to be found in Skills can be evaluated and assessed. I take this to mean that the breakdown into skills and sub-skills has the function of facilitating evaluation and assessment. That is, while it is difficult to say whether someone is a good teacher there is less of a problem with whether he or she possesses a number of skills and sub-skills. This must be doubtful when the skills are of the order 'Has a good educational background' and 'Exhibits professionalism'. These are every bit as opaque as 'is a good teacher'.

But why ever should it be supposed that skills, particularly, lend themselves to assessment? It is possible, without stretching ingenuity very far, to think of three reasons. Such assessment appears eminently objective since it relates to things which people can actually be seen to do, fair since everyone can be assessed against the same list, and

scientific in that qualitative judgments are eliminated, often in favour of ticking boxes on a check list. But of course objectivity in this sense and the related pseudo-virtues are achieved only by reducing skills to mechanical routines. Once we expect visual aid to be used appropriately, discipline to be kept satisfactorily or records and reports to be kept adequately, an element of interpretation quite properly enters and the assessment loses the straight forwardness and 'objectivity' that appeared to recommend it.

In the field of education it is perhaps always tempting to list detailed behavioural objective since these appear to guarantee that the educator has some definite goods to offer. The temptation and the accompanying dangers are especially acute at present because of the search for criteria of performance by which to reward and promote 'effective' teachers, and because of the move towards criterion-referenced assessment of pupils, where an examination grade is associated with competence in a named range of skills. The Inspectorate's booklet *English from 5 to 16: curriculum matters 1* is a recent example, rapidly becoming notorious of what happens if you break down the development of literacy, oracy and literary sensibility into a host of sub-skills. It should stand as a reminder that the connivance of those who organize, manage and assess is not a value that overrides all others, least of all in schools, for children are quick to sense what their elders' order of priorities is. If the first priority appear to be the sorting of sheep from goats it is little wonder if children are slow to perceive any intrinsic value in the education they are offered.

What makes it very hard in practice to make firm assessments of teachers, to conclude that one teacher has a certain skills while another does not, is the complexity of the context in which teaching skills are exercised. That complexity appears to be denied by the Project's second assumption, 'Skills can be isolated and identified. I believe I am not alone in finding that the fears and difficulties young and student teachers experience arise at least as much in the context of their

relationships with to her teachers as in their dealings with classes. The head of department, it emerges, feels threatened by Peter's first-class honours degree and would rather like to see him fall on his face. Julia's school is still split into factions by the merger that took place over a decade ago. In John's several members of staff, including the two he is supposed to work most closely with, are hoping for the post of senior teacher which carries responsibility for supervising students and probationers: they studiously ignore him, presumably for fear of seeming to advertise their supervisory abilities too blatantly. And so on. This is the minefield in which the Project appears to believe teachers can treat their skills as if they were clinically assailable and work at them like a craftsman.

It seems obvious to me, on the contrary, working in a school requires a continual awareness of the institution's history, of political and other pressures such as those caused by the recent pay dispute, and of colleagues' sensitivities, to mention only three factors. The Project deals with these complications briskly. The New Teacher recommends senior teachers with responsibility for staff development to identify and compile a list of those who might need and be prepared for some self-training', to help them devise suitable activities and discuss the results with them. What are likely to be the feelings to a teacher so identified? Anyone implementing the Project's advice here will be confronted with a most difficult and subtle problem in human relationships. The way to deal with it is covered by a crisp sentence in parenthesis: 'At all stages, remember to be tactful and non-threatening' if the complication introduced by other people's feelings were a minor one we all knew how to cope with and only needed to be sure not to forget. Nor are the teacher's own feelings to be allowed to make things untidy. If you find it anxiety-provoking for others to watch you practice your skills, well, don't. Do not feel threatened when these observers offer you advice'. It is simply a further skills, that of not feeling threatened that is required on these occasions? What a person experiences as a source of anxiety is, to put it briefly, usually bound up with his or her whole way of perceiving the world,

with a wide range of dispositions and attitudes. Learning not to find authority figures intimidating, says, requires a reorientation that may take a lifetime and change of attitude to much else. That is why it cannot be regarded as 'isolable' and, if skills are characteristically isolable, as a 'skill'.

It is not so much that the Project's conception of skills learning is unsophisticated as that there appears to be a positive determination to view it as superficial, a process that make minimal contact with the learner's value and feelings and involves little contact between persons. Thought scattered remarks suggest learning to teach is a cooperative enterprise the nature of the cooperation is left hazy, and at one point it is clearly spelled out that picking up teaching skills in essentially solitary exercise in which little help is to be expected from others. The New Teacher tells us that 'In a profession which make decreasing provision for in-service training, the emphasis must shift to what the practitioner can do to improve his own performance' and talks of 'self-analysis' requiring 'minimal support or guidance'. In this picture of learning the role of other people is reduced to that of models for imitation and skills become items to be acquired, so many pieces of cargo to be 'taken on board' and unloaded onto others with no lasting effect on the agent of transport, just like the inert facts of the more academic tradition that skills training is often held to have superseded.

The sixth assumption, 'Skills can be reflected upon and refined with practice', if charitably interpreted as 'Reflection and practice both have an essential role in acquiring skills', does seem to make room for the deeper and more personal assimilation whose absence I have criticized. Here it appears to be acknowledged that without some degree of thoughtfulness skills acquisition risk degenerating into rote and routine. Most of the Focus Books do find a place for reflection, to the extent of having an entire section called 'Reflections', but the size of the gap between this and the acquiring of skills is shown by such comments as that the first two sections are 'directed towards the acquisition of the sub-

skills and their combination into an appropriate whole', and by the suggestion that 'Reflections' might in concurrent courses be studied a year after the 'skills workbook'.

In any case 'Reflections' does not always appear well designed to stimulate reflection. Part 3 of *Teaching Bright Pupils*, for example, consists of four topics. The first, 'School provision for bright pupils', is largely descriptive; the other three, 'School provision for bright pupils', is largely descriptive; the other three, 'Some possible teaching strategies', 'Practising skills of questioning' and 'Managing bright pupils in the classroom' are, as their titles suggest, prescriptive in content. This particular workbook ends with four tables, including thirty tips for 'managing bright pupils in the classroom' and thirty-eight 'behavioral criteria' by which bright pupils may be recognized. Nowhere is there any encouragement to consider the educational wisdom of labelling some pupils 'bright' and others, by implication, not.

There remains only the first assumption, 'Practical teaching consists of skills', which I have left until last since it is the most fundamental. What reasons are offered for making this assumption? The line of thought runs: teaching is a 'stagnant' profession offering decreasing opportunities for such extrinsic rewards as promotion. 'One way for the new teacher to maintain job satisfaction is to feel that he is still progressing. To factors go together to make this ideal realizable. First, there must be a fundamental belief that teaching is about skills.... So feeling you have mastered skills brings job satisfaction: it is the need for job satisfaction that warrant the first assumption, on which all the rest depend.

In this section I speculate on the effects of skills acquisition on the acquirer. As we have just seen, the Project thinks the effects are essential beneficial, but it is possible to hold otherwise. For regarding capacities as 'skills may be way of insisting on their separateness from personality; the 'real me' is not put at risk by rebuff or failure if it is only my skills that are found wanting. On a sensible conception of skills, my skills do not testify to the kind of person I fundamentally am.

You do not know much about me as a person when you have learned that I can or cannot use a word processor. Once I regard all my capacities as skills, however, nothing, I may imagine, gives away the kind of person I am and the 'real me' - its profile low to the point of invisibility - is in the ideal condition to survive the contingencies of a hostile world.

Our skills do not say much about who we are because they make no reference to our dispositions, our wantings and valuing, and it is by virtue of these that we are persons of one sort or another. 'It is in what we value, not in what we have, that the test of us resides', Forster writes, explaining how Herbert Pembroke was 'stupid in the important sense: his whole life was coloured by a contempt of the intellect. That he had a tolerable intellect of his own was not the point'. The test of us, we might say, lies in our virtues rather than in our skills. And skills can be distinguished from virtues precisely with reference to disposition. I can be skilled with the chisel without wanting to exercise that skill, or without wanting to use it in the right way or for the right ends. But I cannot have a virtue and not be disposed to exercise it. It is part of what we mean by attributing a virtue to someone, calling him frank and open, for example, that he is strongly disposed to be so, not that he can be so when he chooses.

It is so obvious that personality and character are crucially important in teachers that the point would not be worth making were it not that too much emphasis on skills is effectively a denial of it. We want teachers who are receptive, flexible, patient, willing to take risks, supportive of each other. These are qualities of person, not skills to be brought into play when you enter the staffroom or classroom. To think of them as skills is immediately to think of them as entered into less genuinely or whole-heartedly. Some sense of this, I think, enters into many teachers' reluctance to exchange better pay for a tighter definition of duties. Rather than be paid for lunch-time supervision, say, they would prefer to be acknowledged, in salary and other respects, as the sort of persons amongst whose merits it can be counted that they are

willing to do these things. In this they recognize the importance of the kind of person a teacher and the central place in that of what the or she is disposed to do.

It looks as though 'virtues' rather than 'skills' should be at the heart of our conception of a good teacher. This is awkward, because 'virtues' have unpleasant connotations of smugness and self-congratulation. That, as Bernard Williams points out, it because discussion has taken place too much in the context of the cultivation of the virtues, and there is something very suspect about deliberately cultivating a quality because it is a virtue. A brave person does not act under that description; he or she does not dive into the river because this is the brave thing to do, but because he or she is determined to save the child that has fallen in. People whom we call kind act in order to alleviate suffering, not because they want to perform an act of kindness. We find very unattractive those individuals who act out of a consciousness that such-and-such counts as virtue, and we have a special word for them: we call them prigs.

Because we dislike priggishness and the notion of virtue reminds us unpleasantly of 'character-training' we react against talk of the virtues altogether and are inclined to prefer the upretenciious down-to-earthness of skills. What we fail to notice is that skills can be pursued in the wrong spirit just as much as virtue. It is one thing to learn skills, to acquire know-how in various practical matters, but something entirely different to cultivate skills under that description, because they are skills. The two are related as priggishness is to real virtue or as the love of hill-walking is related to being in love with a picture of yourself as the outdoor type. One involves absorption with the task or activity in hand, the other concentrates on the image you present, both to yourself and the rest of the world. It must be emphasized that it is this second version, the self-regarding cultivation of skills as skills, that the Project recommends, with its repeated injunctions to 'think of yourself as a craftsman' and to seek the satisfaction of feeling that you have mastered skills.

This attitude is at home in a world where it is widely held that people are no more than the sum of the roles they play, so that the 'presentation of self in everyday life' is seen as inevitably and properly an overriding concern. Self-consciousness is the central factor here, a watching of yourself as it were from the outside, and through the eyes of others. This passes for normality to such a degree that proponents of the Project's sort of approach to skills see nothing add in proclaiming practicality as amongst its chief merits and dismissing as self-centred or unduly introspective different philosophies which encourage a greater depth of reflection and admit the importance of the trainee's fears and feelings. Usually the idea seems to be that although such skills training may begin by being self-conscious and awkward, eventually trainees will come to perform task smoothly and unself-consciously. But may it not be that it is the self-consciousness, rather, that ends up being unconscious? Where we begin a routine or activity in a spirit of concern with ourself and our image perhaps it continues coloured by the founding motivation, but we, for our self-respect's sake, cannot allow ourselves to perceive this or remember our original motive. For we were hoping to be craftsmen, after all, not people merely posing as them.

So the teacher who sets out to be a craftsman may come to be like Sartre's famous waiter in *Being and Nothingness*. His movement is exaggerated, 'a little too precise, a little too rapid': his walk imitates 'the inflexible stiffness of some kind of automation while carrying his tray with the recklessness of a tight-rope walker'. The waiter is in what Sartre calls 'bad faith' (*mauvaise foi*) because he has allowed the world's cruder expectations of a waiter to constitute his identity. In acceding to this he denied his freedom. 'He is playing at being a waiter in a café', Sartre says; less a 'waiter'. I think we are familiar with this phenomenon from a different context; teachers who have become 'teachers', caricatures of the species. Like haam actors their gestures are too expansive, their vocal inflections too marked, their poses too contrived. Children have sharp eyes for this theatricality. They capture it

is nicknames and burlesque it in imitations of cruel accuracy. Many of the trainee teachers I meet fear almost above all that they will truth into the sort of career teacher they see in the staff-room: that such responsiveness and humanity as they possess will vanish forever behind the professional mask. They are the sort of people Wragg contrasts unfavorably with experienced teachers who, he say with what appears to be approval, 'Did not hesitate to come to strong, be larger than life by exaggerating their authority, their preciseness or even, in some cases, their real or feigned eccentricity'. Unfortunately, as happened with the waiter, the mask may set and prove difficult to remove. After years of performing we become uncertain what is feigned and what is real. A student quoted the following confession from a teacher whom she had just observed 'coming on strong' with a class:

You have to be an absolute monster sometimes, otherwise they'll over you. The trouble is the after years of doing it, it starts to get you like that inside. I sometimes stand back mentally and I think, 'Are you going mad'?

To climb on stilts to teach, reverting to Yeats's imagery, may increase your stature and impressiveness in the short term, but over a longer period there is like to be a price to pay. Standing aloof holds out the promise of invulnerability but in the end delivers only a growing sense of remoteness and emptiness.

We would do teachers an injustice if we came to think of what I have described as simply and occupational disease to which, mysteriously and rather comically, they are liable as a profession. It is essential to remember that it is a way of coping with certain of the typical experience of teaching. The strain of continually dealing with reluctant or rebellious pupils brings, naturally enough, the temptation to stand above it all or to retreat behind some kind of mask. Further pressure may come from the pupils themselves: 'Children demand daddy long-legs upon his timber toes' (Yeats), for such a teacher is usually moderately entertaining and conforms safely to stereotype. Then too current state of teachers' morale and loss of faith — in

education as an ideal and in their ability to contribute to it—clearly play a major part, since the Project recommends the satisfaction of skills acquisition specifically as a solution to this problem.

The solution to loss of faith, however, is not to be found in the cultivation of bad faith. If bad faith in teaching consists in self-consciously playing at being a teacher then perhaps good faith lies in drawing on a deeper sense of what teaching can be in working out for yourself a philosophy of education with the capacity to justify and reinvigorate the actions and procedures that it underpins. At the heart of such a philosophy would be an understanding of what learning involves: not merely superficial acquisition, whether of facts or skills, but taking risks, entering into dialogue with other people, and accepting where appropriate the experience of uncertainty instead of clutching at firm and definite answers. This understanding would go beyond theoretical assent to touch the teacher's own experience as a learner, for only one so in touch can help other towards significant learning. You must, for example, be able to bear uncertainty yourself before you can help other to do so. This is the respect in which your teaching is not inappropriately described as matter of faith: not in any specifically theological sense but in being connected to courage and commitment. To teach in good faith is to be personally committed to the kind of learning you encourage in your pupils, and to acknowledge and accept the accompanying risk, from which the person who insists everything can be reduced to 'skill' hides. It is to have the kind of courage that is a part of unselfishness, in putting your teaching to the service of the growth and well-being of your pupils, rather than to use them as props or foils to meet needs of your own. It is therefore properly to educate them. Where this is a business of helping them to take responsibility for their own learning and lives.

The Project remarks strikingly that there are a number of circumstances where pupils may profitably accept a degree of responsibility for the functioning of classroom groups to

which they belong, on a temporary basis. This turns out to mean that they are to be allowed to play at being chairman, organizer, spokesman or 'expert' taking responsibility is seen as something done by authority figures, real or pretended, not ordinary learners. The stilted teacher puts his or her own needs foremost, and leaves the centre of the stage only to make room for those who will flatter by imitation. So education becomes turned into one more spectator sport, one more conformation of the passivity and dependence of pupils, instead of being the means of their achieving autonomy and self-respect.

The professional development of teachers, then, if it is conceived too narrowly in terms of the acquisition of skills, may turn out to be damaging both to the personal development and well-being of the individual teacher and to the educational development of the pupils. It is worth adding that the skills approach is no help, and is likely to be positively destructive, in the development of better relationships between teachers themselves. The Project appears tacitly to acknowledge this in making light of the difficulties in this area, as we saw. Thinking of teaching as a collection of skills and single-mindedly perfecting your own often works effectively as a way of evading the business of supporting your colleagues, for, of course, if they have problems they should simply go off and acquire the skills to deal with them, with the assistance of the relevant experts where necessary. Giving support makes demands not on such specialist skills as we may happen to possess but on our virtues, notably courage and commitment again.

Education System

Compulsory primary schooling begins at 5, but many 4-year-olds attend primary school on a voluntary basis. Primary schooling is generally from 9.00 to 15.30, with one hour for lunch. At the end of six years' primary schooling most pupils in the state sector transfer to a comprehensive secondary school. In some areas, grammar schools operate and parents may opt to send their children there. City Technology Colleges (CTCs) offer a third option in secondary education, but these are only available in a very few areas.

Secondary schools in England, Wales and Northern Ireland offer courses leading to the General Certificate of Secondary Education (GCSE), and in Scotland courses are offered leading to the Scottish Certificate of Education (SCE). Children study the National Curriculum and in the third year of the secondary school begin courses leading to GCSE examinations. Each pupil keeps a National Record of Achievement (NRA), in which they may keep a list of achievements, both academic and practical, to present to future employer. From here the option in further education include sixth form colleges, colleges of further education, and Youth Training (YT). Also, courses leading to the International Baccalaureate (IB) are offered at an increasing number of British schools. The diploma is awarded at the end of a two-year period of study, paralleling the A-level years, to those students who have met its wide ranging requirements in six

study fields, and been awarded a total score of 24 or more.

Admission to higher education requires a further two years of study from 16 to 18. Acceptance qualifications include A-level, BTEC national diplomas, or four of five passes at the Scottish Higher Grade level (Highers) in the SCE. All are obtained after the GCSE or SCE. In general, two or three A-levels are taken, as compared to seven or eight GCSEs.

Altogether there are about 600 institutions in Great Britain and Northern Ireland which offer higher education courses; all receive their principal funding from one of two sources: central government via the Department for Education (DfE), and the local education authorities.

The national curriculum

The National Curriculum has been designed to enable children to achieve higher standings by setting demanding national targets for pupils of age and abilities. It consists of ten subjects; at the centre are the core subjects of English, mathematics and science. The other subjects are technology, history, geography, a modern foreign language, art, music and physical education. In Wales, Welsh is also part of the National Curriculum. It will be fully in place by the mid-1990s.

Special education

The organization and management of special education provision in the UK falls within the remit of the local education authorities. LEAs must provide education for all children with special learning needs between the ages of 5 and 16. In addition, the Further and Higher Education Act 1992 has removed further education colleges and sixth-form colleges from local education authority control and has set up funding councils. The councils must find suitable courses for students up to the age of 25 with learning difficulties. They also have to provide independent living and communication skills courses which lead to vocational or academic course.

Administration

Education is controlled centrally by the Department for Education (DFE), and locally through local education authority (LEAs). The education system is monitored locally through Her Majesty's Inspectorate (HMI). The Education (Schools) Act 1992 has introduced a league table to compare schools' examination performance and increased the power of HMI.

Finance

State education is free. Means-tested grants and interest-free loans are available for students in higher education. As well as the state education system, there are a large number of private and fee-paying schools in the UK which can cater for pupils from 3 years old upwards.

Vocational education system

The chief providers of vocational education in the UK are maintained colleges. This stems from the arrangements to which the 1944 Education Act gave expression, placing upon each LEA responsibility to ensure the adequate availability of further education in its area. Colleges have always received income from more than one sources, notably from fees from students and employers alongside general recurrent funding from the maintaining LEA. Pressure to cultivate multiple sources of funding has grown in recent years, partly from the growth of government programmes and partly from the recently enhanced freedom afforded to colleges to targeting earned income and using it at their discretion. This freedom, and others concerning the deployment of their budget, flowed particularly from the provisions of the 1983 Education Act, which accorded much increased powers to college governors at the expense of the authority of the LEA. The Further and Higher Education Act 1992 has removed further education colleges and sixth form colleges from local authority ownership, in order to give them independence and enable them to flourish in a market environment.

The original of Examining and Validating Bodies (EVBs)

lie in the aspirations for national, or in some cases, regionally recognized vocational qualifications. This sentiment is increasingly being endorsed by educational institutions as well as employing organizations, as in general, portability of qualifications is seen as important to the effective working of the labour market.

The chief EVBs today, each occupying to some extent its own territory although not so confined by its constitution or by government are:

- The Business & Technology Education Council (BTEC);
- City & Guilds of London Institute (CGLI);
- The Royal Society of Arts Examination Board (RSA).

Many other, however, also have place stretching across more than one occupation or area, and there are, besides, many professional bodies examining at the relevant level.

Since the mid-1980s there has been revolution in vocational training and education in the UK. The advent of new vocational qualifications has involved a fundamental rethink of the way we train and educate people for employment. The status of vocational education and training has been awarded a much higher profile through the introduction of National Vocational Qualifications (NVQs), Scottish Vocational Qualifications (SVQs) and General National Vocational Qualifications (GNVQs), which receive accreditation through the National Council of Vocational Qualifications (NCVQ) and the Scottish Council for Vocational Qualifications (SCOTVEC). The NCVQ was set up by the government in 1986 to promote, develop, implement and monitor a comprehensive system of vocational qualification in England, Wales and Northern Ireland.

NVQs are based on accepted standards of competence and performance established by some 170 Industrial Lead Bodies (ILBs) under the sponsorship of the Training Agency (TA). Each NVQ/SVQ is made up of a number of units or modules and credits can be awarded for each unit. An

individual can accumulate NVQ/SVQ unit credits within their own time-scale; there are no time limits for achieving a qualification, so qualifications can be obtained over a period of years in a way which suits candidates and their employers. A key element of the system is the National Record of Vocational Achievement (NROVA). The use of NROVA is made possible when qualifications are offered in the form of a number of component units which can be separately assessed and certificated, as required for NVQs.

In 1992, general SVQs were introduced, similar in most major respects to the GNVQ. General vocational qualifications have been designed to meet the needs of young people in colleges and training centre, and those wanting to return to work, for accessible yet flexible vocational qualifications. They offer students the chance to prepare for work, training, or further study, without prejudicing their future choices. A primary objective for these qualifications is to provide an alternative route leading to employment or higher education for the increasing number of 16-year-olds staying in full-time education. This trend is not only due to the scarcity of jobs for 16-year-olds but also to the higher levels of education that are common in the developed world, with the majority of young people in the EC, North America and Japan staying on in full-time education until 18. GNVQ level 3 will provide a genuine alternative to A-level. From September 1993, students can study GNVQs at two levels; level 2, which equates to a BTEC first or 4 GCSEs, or level 3, which equates to BTEC National or A-levels.

The subjects which can be studied to GNVQ Level are:

- art and design;
- business;
- health and social care;
- leisure and tourism;
- manufacturing.

GNVQ courses have been designed to evolve; they will change as new information and more modern techniques become available. Similarly, more subjects at GNVQ level will be made available as more courses are designed.

The following definitions provide a guide to the levels at which NVQs may be accredited:

- *Level 1*: competence in the performance of work activities which are in the main routine and predictable, or provide a broad foundation, primarily as basis for progression.
- *Level 2*: competence in a broader and more demanding range of work activities involving greater individual responsibility and autonomy than at level 1.
- *Level 3*: competence in skilled areas that involve performance of a broad range of work activities, including many that are complex and non-routine. In some area, supervisory competence may be a requirement at this level.
- *Level 4*: competence in the performance of complex, technical, specialized and professional work activities, including those involving design, planning and problem-solving, with a significant degree of personal accountability. In many areas competence in supervision or management will be a requirement at this level.
- *Level 5*: competence in all professional areas above that of level 4. It includes the ability to apply a significant range of fundamental principles and techniques, which enable an individual to assume personal responsibility in design, analysis and diagnosis, planning and problem-solving. Extensive knowledge and understanding are required to underpin competence at this level.

Appreciating the fact the vocational qualifications do not translate into academic qualifications, a useful broad comparison can nevertheless be made:

Level 2: five GCSE or SCE passes at grade C;

Level 3: two A-level passes;

Level 4: higher National Diploma or Certificate;

Level 5: degree.

The main characteristics of NVQs/SVQs are that they are:

- employer-led (NVQs and SVQs attest to a candidate's competence in a particular occupational area, as measured against standards drawn up by the industry itself);
- competence-based (competence is defined as the ability to perform the activities within an occupation, and embodies the ability to transfer skills and knowledge to new situations within the occupational area);
- criterion-referenced;
- not time-based;
- independent of method;
- available without restriction.

The major benefits of NVQs and SVQs are:

- they give a simple system of vocational qualifications which will encourage employers to train staff, motivate individuals to learn, and help to keep the UK economy competitive;
- NVQs are a nationwide system of vocational qualifications;
- NVQs are directly relevant to employment;
- through NVQs and SVQs, qualifications are much more clearly related to employment standards and needs than previously, and there are clear routes for career or qualifications progression;
- the barriers on training have been removed, and the NVQ/SVQ approach to training is much more flexible.

Because they are based on building up credits, there is no requirement to gain qualifications within a specified period, or at a particular place of training, or within restricted age limits.

NVQs/SVQs are main feature of national training programmes in the Training and Enterprise Councils (TECs) and, north of the border, in the Local Enterprise Companies (LECs). In fact, at the heart of these educational changes the melting pot of the TEC network connects the whole vocational education system. TECs are able to help individuals, educational institutions and employing organization to master the business/education interface. Promoting and managing economic and educational change has rapidly become an essential feature of the TECH movement.

Many trainees commence study towards acquiring NVQs during a two-year period spent on Youth Training (YT). YT has four key objectives:

- achievement of qualifications equivalent to NVQ level 2 as the minimum attainment for young people on the programme;
- a strong emphasis on still higher level skills, particularly at craft and technician level;
- improved job-finding for young people;
- appropriate quality provision for young people with special needs.

Higher education

Altogether about 600 institutions in Great Britain and Northern Ireland offer higher education courses. With the exception of the University of Buckingham, all receive their principal funding from one of two sources: central government via the DFE, and LEAs. HMI plays a major role in the setting up and maintaining of standards in higher education.

The general requirement for admissions to higher

education, whether universities or institutes or colleges of higher education is the possession of:

- the General Certificate of Secondary Education (GCSE) A-level (at least 2 passes), or Scottish Highers;
- the BTEC National Diploma or Certificate;
- the International Baccalaureate; or
- the European Baccalaureate.

Universities award either diplomas or degrees, usually after three years of full-time study. An increasing number of organizations, however, are providing part-time degrees over a five or six-year period. Under-graduate degree courses lead to the award of a Bachelor's degree, with or without honours. Post-graduate degrees, called Master's degrees, follow successful completion of a good first degree.

Adult education

Adults who wish to continue their education are well catered for in the UK. A number of options exist including:

- local colleges of further education which run day courses (sometimes called access courses) for unemployed adults and night school course courses in a range of subjects, both academic and vocational;
- private training organizations which often run free or subsidized training courses for adults, particularly for women returners;
- a number of specific courses for older people are provided by organizations such as the University of the Third AGE (U3A), Age Concern and the Pre-Retirement Association (PRA);
- the Open University;
- many Training and Enterprise Councils (TECs) run courses in their local areas for continuing vocational training.

Other initiatives in the field of vocational training.

Training credits

The term 'training credit' has been applied to scheme under which young people who leave full-time education before they are 18 are eligible for national cash sum from public sources to be spent on their training towards acquisition of a NVQ level 2 or higher. By notional cash sums is meant that the credit has a cash-equivalence; it is not convertible into cash, only into training provided.

It has been piloted in a few areas since mid - 1990, and training credits are to be made available nationwide by 1996. University, however, does not betoken uniformity. TECs are, and will continue to be, the operators of the training credit scheme, and each has some freedom to settle both the substantive features of its scheme and how it will function. Underlying the introduction of training credits are two main beliefs. First, that possession of a training credit will change attitudes among young people, motivating them to insist on training as component of the jobs they may take. Second, that their operation will promote a consumer-led market and so exert influence on providers to become more effective and efficient.

Another initiative along similar lines which more than one TEC has put in place is the 'smart card' device, whereby increments of training are debited from the card and corresponding payments area made to the training providers.

Investors in people initiative

The Investors in People initiative was launched by the Secretary of State for Employment in November 1990. It is designed to help organizations make a permanent commitment to staff training and development, by setting a rigorous national standard, based on best practice drawn from a wide range of business. Companies are encouraged to take a strategic approach to training and development, by linking it to their business objectives.

The initiative has been piloted in England and Wales by TECs, and in Scotland by LECs, working with local organizations. Achievement of the standard requires that an organization:

- makes a public commitment from the top, to develop all employees to achieve its business objectives;
- regularly reviews the training and development needs of all employees;
- trains and develops individuals on recruitment, and throughout their employment;
- evaluates the investment in training and development, to assess achievements and make improvements for the future.

All employees should have a clear vision of where their organization is going and what personal contribution they can make to its success. When an organization feels that all these requirements have been met, it can apply to the TEC/LEC for assessment as to whether it meets the standard. Evidence must be presented for each area, which is reviewed by a professional assessor. The final decision as to whether the organization can be recognized as an Investor in People is taken by the TEC/LEC Board. This status is reviewed at least every three years.

At the end of the first year of the initiative, 28 British companies had achieved the standard and were awarded Investor in People status. A further 600 organizations, in both the public and private sectors (including the Employment Department Group) had announced their commitment to achieving the standard.

National education and training targets

National education and training targets were published in 1991 by the Confederation of British Industry. Their general aim is to improve the skill level of the British work force and the overall efficiency of British industry. The targets focus on

the whole populations, both young people (foundation learning) and the adult workforce (lifetime learning). They are:

Foundation learning:

- by 1997, 80 per cent of young people to reach NVQ/SVQ 2 (or equivalent of four GCSE passes at grades A-C or four SCE passes 1-3);
- training and education to NVQ/SVQ3 (or equivalent of two A-level passes or three Scottish higher) available to all young people who can benefit;
- by the year 2000, 50 per cent of young people to reach NVQ/SVQ level 3 (or equivalent);
- education and training provision to develop self reliance, flexibility and breadth.

Lifetime learning:

- by 1996, 50 per cent of the workforce to aim for NVQ/SVQs or unit towards them;
- by 2000, 50 per cent of the workforce qualified to at least NVQ/SVQ level 3 (or equivalent);
- by 1996, 50 per cent of medium to large organization to be 'Investors in People'.

National baselines have been set from which to work. TECs and LECs are leading in setting local baselines and targets for both foundation and lifetime learning. The rationale underlying the introduction of national education and training targets is that Britain needs to have a highly skilled and competitive workforce to bring it economic success in the 21st century.

Economic feature

The UK has a population of 57.1 million and a labour force of 28 million divided between England, Scotland, Wales and Northern Ireland. England is the largest country in the UK

with a population of over 47 million. Wales is on England's Western border and has a population of 3.2 million and a labour force of 1.2 million. Scotland is located north of England, bordered on the west by the Atlantic Ocean and on the east by the North Sea. It has a population of 5.1 million and a labour force of 3.5 million. Northern Ireland, with a population of 1.6 million and a labour force of almost 700,000, occupies the north-east corner of Ireland.

Measures to assist employment

Jobseekers' Charter

On 17 December 1991, the Employment Service (ES) launched the Jobseekers' Charter which is an initiative specifically designed to improve the service at local employment offices and to help the unemployed find work as quickly as possible. It is part of the government's initiative known as the Citizen's Charter, and aims to provide a better relationship between client and agency. It was drawn up after consultation with staff in local and area offices and staff in Employment Service headquarters.

Under the standards set by the Charter, ES has to make its commitment to the clients clear and to tell them what they can expect from them. 'The public will know exactly what standards of service they can expect... and what to do if they are unhappy about the service they receive', said the Employment Secretary, speaking at the 1991 launch of the charter at a London job centre. The onus is on the client to share the responsibility of looking for work, in order to gain the most from ES facilities.

Information will be easily available to the public, being displayed at every job centre on a Client Service Board, and will explain what the Charter hopes to achieve, for example:

- upper limits for the time someone has to wait to be seen;
- upper limits for the time it takes to answer the telephone;
- overall standards of promptness and accuracy of benefit payments.

If clients are not satisfied with the service, a complaints procedure has been introduced that is designed to put things right as quickly and easily as possible. In keeping with a more professional and personal service, staff in the Employment Service will wear identity badges and use their names when answering the phone.

The ES has stated through the Charter its commitment to helping the unemployed get back to work. All local offices will work out their own targets for customer service, along with targets for the future, which will be displayed in each office. Performance against local standards will be regularly reviewed to let the public know how well these targets are being met. The Jobseekers' Charter initiative is the first stage in a programme of continual improvement of the ES.

Job review workshops and job search seminars

Job Review Workshops began in June 1991 as a pilot and the scheme became national in February 1992. The workshops aim to help people who have been unemployed for around 12 weeks, who are unlikely to return to their previous employment, to make informed choices about alternative careers by giving them occupational guidance. Workshops last two days and are offered to people after they have been unemployed for three months. They have proved particularly helpful to unemployed managers, professionals and executives. Participants have access to typing, photocopying and telephone facilities and are also provided with stamps and stationery to assist them in looking for work. Job search seminars are designed to encourage participants to widen their search for a job and to improve their techniques to looking for work.

Both seminars and workshops are funded by the Employment Service (es) and are run by ES staff or external organizations on behalf of the ES. During 1991/2, 90,000 seminar places were available, resulting in 5717 people starting a job, training of employment programme, or other option. In 1992/3, 130,000 places will be available. Over the

two-day course, participants undertake a personal audit of skills, qualifications and experience. they use an interactive computerized guidance system to match their working preferences with suitable jobs and are able to research entry routes into particular professions and training facilities. Participants also draw up a comprehensive action plan.

Benefits of the UK economy

Language

The most apparent advantages, on oft-repeated by American companies with operations in the UK, is that Britain offer an English-speaking European base, eliminating the difficulties of language differences.

Business law

British company law does not discriminate against non-British companies, but rather operates an open-door policy. There are no exchange control regulations affecting the movement of money in and out, so profits can be freely repatriated.

Free ports

There are four sites within the UK designated as free ports,, within which imported good may be stored or processed duty free for re-exportation to destinations outside the EC. Most freeports are linked to seaports, while the Birmingham and Belfast free ports are linked to their nearby airports.

Labour force

Labour costs for Britain's workforce of 28 million people have remained low, about 30 per cent less than those in the USA, approximately 45 per cent lower than Germany and more than 20 percent below those in France and Italy. The UK's responsive work force has tallied record levels of productivity. Since 1980, productivity in Britain has risen an impressive 51 percent. Health costs

While American health insurance rates are soaring – and

creating a financial crisis for many employer-providers—Britain's government-funded health care is available without charge under its National Health Service.

Taxes

The UK's corporate tax rate, at 35 per cent, is among the lowest in industrialized countries. The small-company rate is 25 per cent, for businesses with taxable profits under 100,000. The UK tax system offers generous allowances for capital expenditures, including:

- 100 per cent allowances for trade-related expenditures or scientific research;
- 100 per cent allowances for the construction of industrial and commercial buildings in designated Enterprise Zones;
- 25 per cent allowances for investment in plant and machinery; and
- indefinite postponement of reinvested capital gains through 'rollover relief'.

From April 1992 individuals can get tax relief on the payments they make for vocational training. Tax relief is available for training which can lead to a NVQ or SVQ up to and including level 4. NVQs and SVQs are made up of 'units of competence' and any unit qualifies for the relief. Individuals can claim the relief for any unit or part of a NVQ or SVQ even if they are not studying for the full qualification. Relief, however, does not extend to general educational qualifications such as GCSEs, A-levels, even where they are taken as a preliminary to NVQ or SVQ study.

The relief is given on:

- study, examination and registration fees;
- fees payable for assessment purposes, including assessment of prior learning;
- payment of any award of certificate obtained.

It is not given on payments for equipment or textbooks, or the cost of travelling or subsistence on connection with training.

The tax relief is received directly on payment of course fee by deducting an amount equal to the basic rate of tax from the full fee.

Financial incentives

Britain offers an attractive package of government grants and incentives to encourage industrial development in the country.

The most generous incentives are available to support investment in those areas badly in need of new industry to revitalize their economies. Known collectively as Assisted Areas, they include parts of England, Scotland, Wales and the whole of Northern Ireland, which has the highest levels of financial assistance.

The principal investment incentive is Regional Selective Assistance available for both manufacturing and service industry projects, and usually based on capital expenditure and the number of jobs to be created or maintained.

Some 25 Enterprises Zones have been created throughout the UK offering companies special benefits that include 100 per cent capital allowances and exemption from local property taxes (business rates) on industrial and commercial building.

Additional incentives made available to companies at local levels often include tax-free grant for machinery, employee training, interest relief, rent and research and development projects.

Finding employment

EC nationals have the right to live and work in England, Scotland, Wales and Northern Ireland without a work permit. However, a work permit is required for employment in the Isle of Man and the Channel Islands. A full EC passport is required to work in the UK; a visitor's passport or excursion

UK for up to six months to look for work or set up a business. Visitors who intend to stay for longer have to apply for a residence permit on an EEC form. These are available from the Immigration and Nationality Offices.

EC nationals working in the UK (except in the Isle of Man or the Channel Islands) have the same rights as UK nationals with regard to pay, working conditions, access to housing, vocational education and training, social security and trade union membership. The Employment Service runs a network of jobcentres throughout the UK and free access to these is available for any EC national. Jobcentres can advise on job vacancies and on finding work, as well as provide more general advice on training opportunities. They can be found in all major towns and cities in the UK. To find the address of the nearest office look in Yellow Pages or in a local Thomson's directory.

Private employment agencies are a useful source of temporary and, in some sectors (such as the computing industry and hotel and catering), of permanent employment. Their addresses and telephone numbers can be found in Yellow Pages. They are usually listed under employment agencies, recruitment agencies, or temporary agencies.

National and regional newspapers such as *The Guardian*, *The Times*, *The Independent*, *The Daily Telegraph* and *The Financial Times* all carry job advertisements. In general, these newspapers feature the more professional appointments such as law, teaching publishing, social work and computing appointments, but many advertise details of local recruitment agencies and job opportunities as well. As far as local newspapers are concerned, Thursday is the main day for job advertisements. There are also many specialist newspapers, journals and magazines. Central, academic business and careers libraries often hold directories of local journals or Chambers of Commerce publications.

The Experience of the Pioneers

In September 1983 the first students began courses which had been introduced to their schools by the Technical and vocational Education Initiative. They were 4315 in number and attended about a hundred schools. Thus began the most important reform of the secondary school curriculum for 14-18 years olds since the 1944 Education Act. Until then the emphasis had been on changes in the institutional organization of education. Other attempts to change the content of education had been piecemeal. Often they were related to single subjects. Seldom did they receive sufficient impetus, resources and evaluation to ensure permanent change. Major reform on the curriculum can succeed only if these elements are included.

- a national framework to overcome the innate conservatism of schools as institutions which is now greatly increased by the competition of parental choice and falling rolls.
- a similar local framework of support
- clear objectives, understood and accepted by all participants and monitoring of their achievement
- a careful assessment of resources
- retraining of teachers and changed initial training of new teachers

- Change in the public examinations system
- acceptance by employers higher education, students and parents that the change is in their interests.

The Initiative embraces all of these and is, as a result, having a major impact on the curriculum. Within a year the number of local authorities involved had increased to sixty-two, the number of schools and colleges to 450 and the number of students to 20000. In November 1984 the possibility that further areas could participate was announced. The sum of the experiences acquired by the first fourteen projects is a large bank on which the whole country can draw. Accounts of the projects can be read in Commbe Lodge Report, vol. 16 No. 5, TVEI Review, and TVEI Insight No.1, September 1984.

Curriculum planning

All of the approaches outlined in Chapter 2 may be observed in the first 14 TVEI projects.

- (a) Use of the 11 occupational families
 - (i) Devon (Exeter) uses all 11 facilities as the basis for 30% of the curriculum, relating them to specialised curriculum areas such as business studies, design studies, media studies.
 - (ii) Wigan uses three clusters each of 3 study units lasting a term. Students have all nine in the fourth year: Manufacturing (craft design technology, design and make, electronics), Marketing (Business studies, computing, word processing) and Service (health care and safety, social care, catering). There is some specialisation in the fifth year.

(b) Concentration on High-technology

Initially, Hertfordshire's project was based on the identification of skills and studies which were needed both locally and nationally. These were information technology, modern office skills, modern engineering including computer-based design and machines, industrial studies, electronics,

technology, computing. The studies were arranged into single subject courses, validated at GCE O level and CSE. A course, linked with the DES's low. Achievers' Project and embracing several of the identified skills, occupies the same proportion of the less able students' curriculum.

(c) Specific response to local conditions

Barnsley, dominated in the past by coal-mining, is now dominated by unemployment and hopes for a diversification of industry. Its courses are based on five occupational groups: performing arts, agriculture/horticulture, administrative and clerical, technology, services (food, personnel and sales, community and health).

(d) Radical or novel curricula

- (i) Birmingham starts with 'a range of experiences relevant to and capable of transference to employment': literacy, numeracy and communication skills; personal development and coping skills; awareness of work environment; problem-solving skills. These are the core. They are surrounded by English, mathematics and understanding industrial society as integrating modules.
- (ii) Clwyd's scheme is skill-based and student centered with 'each student pursuing a negotiated, flexible curriculum'. At Abergele a modular curriculum has been pioneered.

2 Where to start? The distribution of pilot courses

If a local authority is planning to change its curricula it has to start somewhere. The introduction of technical and vocational courses has to be phased, if only because of the costs. The 14 pilot projects show alternative approaches.

- (a) Concentration in tightly-knit areas, for example Hertfordshire.
- (b) A selection spread throughout the local authority area, for example, Birmingham and Clwyd.
- (c) A very small number of institutions, as a concentrated

pilot, e.g. Bradford, where two of its twenty four 13-9 schools, sharing the same campus, are linked to one of its three further education colleges.

Location of facilities

A local authority or a group of school which is planning the introduction of technical and vocational courses has a number of choices to make about the location of expensive facilities. The minimum cost of a computer-room, provided in an existing room and based on eight micro-computer stations, networked and with a large teacher's monitor at 1984 prices is more than 10000 for the equipment and 7000 for furniture and up-grading of services. Similar sum are required for an office skills room, based on sixteen electronic type-writers with audio-typing facilities and word-processing, using inter-faces with micro-computers which are not included in the figure. A modern engineering, design and craft course for 14-16 year olds, with a minimum provision per class of two computer numerically-controlled lathes and one computer-aided design system based on a popular micro-computer, and assuming the existence of a well-equipped engineering workshop. None of these costs includes expensive consumable items such as type-writer cassettes, computer discs and materials. They would provide acceptable but not lavish facilities. The cost alone prompts the questions of how and where these facilities should be provided.

Another considerations the quantity of teaching expertise available. Is it necessary to provide some facilities permanently in every school if the only teacher competent to take a particular course can be made available for only a part of the week?

One choice is between the concentration of resources, both equipment and teaching expertise, in one place as a power-house for change, and the dispersal of resources amongst all schools in the area, in order that the new courses may more effectively take root in every institution and thus influence them. A variation is to make facilities in colleges of

further education available to school students, although this is clearly an alternative to the specialist centre, with the disadvantages as well as the advantages of that arrangement. Both a centrally-sited organisation, for syllabus development, teaching material production and in-service teacher-training, and the provision of adequate if minimal facilities in each school are desirable. Even with the relatively generous provision in the 14 pilot schemes, however, dual provision has seldom proved possible.

It is geographically possible in some areas to pool the resources of several institutions. By this method schools many have to specialise, for example, with one school having much-improved facilities to enable catering courses to be provided, another having the best business studies provision, and a third the best engineering. The danger is that the concentration of resources in particular schools, with the measure of specialisation to which this would lead, might label the schools and affect parental choice at the time of admission to secondary education.

The fourteen projects have approached these problems differently. The inevitable compromises have tilted the balance sometimes in one direction, sometimes in another.

(a) Schools and colleges

The most straightforward arrangement is Devon's, since the five Exeter 12-16 schools already had close links with the one tertiary college, and all of the institutions are in one small city with a population of about 100000. More than ten years' experience had already produced joint arrangements for student guidance and curriculum development, with agreed policies on many major issues. Facilities have been provided in all institutions, with some degree of specialisation in some institutions and movement by students between institutions, which is made possible by their proximity. This arrangement suits the broad range of occupational facilities on which the Exeter TVEI curriculum is based.

Hertfordshire's scheme is similarly based on one area of

similar size - the post war new town of Stevenage which has a population of about 80000. Its approach was quite different from Devon's, for its starting point was ten 11-18 comprehensive schools with some students transferring at 16 to colleges of further education for vocational courses, and a few students also transferring for general education courses. Hertfordshire is putting almost identical facilities into often schools with no travel between institutions until after 16, when facilities will be provided on the basis of consortia of schools to which the college of further education will contribute.

(b) Centres

Herefordshire-Worcestershire by contrast has invested much of its resources in a central institution in the centre of Hereford. This is a response to the size, variety and distribution of its secondary schools. TVEI courses have to be provided in schools which have 14+ year groups varying in size from 40 to 280, which are both 11-16 and 11-18 in age range, and which are between eight and twenty-three miles away from Hereford itself. More-over, many of the schools recruit their students from a wide area. The solution to a geographical and demographic problem was to set up specialist studies in a central location and bring students to them by bus. The scale of provision benefits from this arrangement; if computing facilities have to be provided only once, for example, it is possible to do it on a grand scale. The disadvantages are the revenue costs of transporting students, the time wasted to travelling, which for some students is in addition to time already taken to reach their own school from outlying villages before the journey to Hereford begins, the physical emphasis on the difference between the technical/vocational course and the rest of the curriculum, and possibly the lack of influence on the institutions which the students leave behind. Geography does sometimes dictate solutions, and the disadvantages have to be countered by other means.

The Hereford centre is a good example of the benefits which can flow from the stimulation of having concentrated

resources, as is Clwyd's centre at Bodelwyddan Castle. A difference between the two is that the five Clwyd schools have each developed their own curricula and the central provision of resources has not required any uniformity of curriculum. Indeed the variety between schools is as great as in other schemes where the individuality of schools' responses is almost an article of faith and the central provision of anything is anathema. A centre can be a place where teachers, both newly appointed specialists and well-established school staff, can meet, enlarge their experience, and develop courses and the material for them, as well as a place where expensive equipment can be more economically established. In Clwyd, where the furthest school at Llangollen is 35 miles from the castle, the emphasis has been on the development of in-school programmes, with the castle serving as a supporting consultancy and a high activity centre for specialist courses needing expensive and sophisticated equipment.

(c) Buses - mobile classrooms

Having and considerable experience of providing technology to middle and upper schools in specially designed mobile units. Bedfordshire naturally turned to these as the means of providing more technology courses and also business studies courses. Mobile units, time-tabled to visit schools for half-day or day sessions are an economical way of delivering courses to schools which are spread throughout a country in centres of population which may vary in size but are generally quite small. They avoid the expense and lost time of travel by pupils which follow from the establishment of centres. If they can be double-decker, which requires a careful check to be made on low bridges before substantial capital is expended, considerable floor space is available. although considerable floor space is available, although the need to supervise students on two levels has to be considered. A single-decker needs very careful planning of the interior lay-out, but can provide acceptable facilities for computing and office skills. A new single-decker mobile unit cost at least 25000 in 1984, without furnishings and equipment, although there are

sources of reliable second-hand vehicles which greatly reduce this figure. Hertfordshire has used buses to establish courses quickly, leaving more time to plan permanent facilities in the Stevenage schools.

The disadvantage of mobile units is that schools have limited access to the specialist equipment and there is a danger of local authorities seeing them as a cheaper alternative to permanent on site installations. They can, however, be adapted later for more sophisticated use, once schools have their own facilities, e.g. to provide a variety of computing equipment or a model office to supplement a basic office skills classroom. Bedfordshire regards them as a major contribution to teacher training, since a member of the school's staff accompanies and learns from the driver-teacher who brings the bus. Bedfordshire has certainly proved their worth.

(d) Special-purpose centres

It is possible to provide basic courses within schools and make a separate provision for a part of a vocational course on principle. The separateness of the provision is the aim. Bradford's pilot project is based on two upper schools, catering for 14-18 year olds and sharing the same campus, and a community college in the city centre which lies on a direct bus route from the schools. The project has also developed a Work Practice Unit in which all students experience work away from the classroom, but in a controlled way which is impossible in an industrial work experience placement. The unit also introduces students to something akin to production methods in an industrial-type setting at an age when work experience outside school is illegal. The separateness of the unit and its distinctive approach are the reasons for its creation.

The variety of modes adopted in these examples are responses to different circumstances. All are valid. None is without advantages and disadvantages. The choice for a local authority depends on a careful assessment of geographical, educational and financial factors.

4 Specialisation in some schools by level

Some of the authorities have found it helpful to pilot different courses in different schools. The level of final qualification varies in some cases, so that the full ability range is not included in the curriculum change in every school, although it is covered when courses in all the local authority's schools are considered as a whole. The advantage is the courses can be developed without the major change in the curriculum necessitated by planning for the full ability range in each institution. Sandwell has five different models, with different examination goals. Leicestershire is a federation of school projects, in which overall the full ability range is included, but not the full range in any one institution.

5 Specialisation in some schools by subject

It has been helpful in some areas to have courses prepared and developed in one institution initially. In Barnsley the occupational groupings, which are the basis of the technical and vocational elements in the curriculum, are not available in all the pilot schools. The performing arts course, for example, is available in one school, but not in another.

6 Proportion of time

There is some variation in the current amount of the students' time given to the technical and vocational elements. Most have taken 30% or the equivalent of three option blocks, but in the Wirrall this is increased to 40% and in Bradford to 50%. Staffordshire has 30% but also one untimetabled day a week for cross-curricular activities.

Issues: questions answered, unanswered and asked

If you contribute to reform you will be attacked. You need an armoury. The skilful warrior knows his strengths, is aware of his vulnerability at some points, and knows that he cannot fight the battle alone and must occasionally step aside, so that the flak is taken by others. The questions which follow are frequently asked. Some can be satisfactorily answered, some cannot and some have to be re-directed to government.

1 Is it reasonable to increase the vocational elements in compulsory schooling at a time when unemployment seems to be the most likely future for many youngsters?

The case for vocational elements is not based on preparing youngsters for jobs, but on giving them an understanding of the relationship between their studies and the requirements of industry and business. It is a curricular requirement, irrespective of current levels of employment.

Schools cannot accept the responsibility of forecasting the range of job open to the young, still less the proportion who will work and who will not. They only point in making such a forecast would be to follow it up by selecting students who should be prepared for work and those who should be prepared for unemployment. Such a rigidity, even if it were politically and professionally admissible, would be but a new version of the tri-partite system when schools prepared youngsters for the professions, technician posts or manual work.

Guidance in the use of leisure has a place in the curriculum in its own right and might be part of technical, vocational aesthetic or physical education courses. That does not mean that in the mid 1980s we have the right to decide that many of our students will not work or to base our curriculum planning on that assumption.

We may have several visions of the future. We may return to full employment, although forecasts by Warwick University's Institute of Employment Research suggest that unemployment will rise to 3 1/2 million by 1990, rather than fall. If unemployment does remain high, there seem to be two main alternatives. The first is to continue as we do now, with those in work enjoying a higher standard of living than those without, with the gap widening and social tension increasing. The second is to adopt ideas such as those outlined by Professor Handy in the *Future of Work* (Basil Blackwell, 1984). e.g. people working from the age of 20 to 50 (a 50000 hour job instead of a 10000 job), increased holidays and sabbaticals more marginal and gift work (the black and grey economics).

This will be possible only insofar as the person who is capable of earning a high income for forty or more years, willingly or by government regulation agrees to share its benefits with those who would otherwise be unemployed. It might be easier if the national wealth greatly increased. It is difficult to see it happening without the application to employment policies of the central directives and leadership currently being applied to education and training policies.

Whatever the future, schools do not have the right to base the curriculum on guesses. One of the schools' responsibilities remains that of enabling students to compete as successfully as they can for whatever jobs are available. The impetus for up-dating the skills taught in schools has validity, whatever the future of work. There is not case whatever for teaching wrought-iron work rather than data-handling, or for teaching ancient Greek rather than science.

2 Is it not a bad thing to have government agencies, not hitherto involved in education, promoting change in schools?

The more important question is whether the change is needed. If your answer is 'No' and you are confident that the present curriculum meets the needs of pupils in the mid-1980s, then change from any quarter is unwelcome to you. If on the other hand you accept the need for change and the general direction of what is proposed, your difficulty is that schools and local authorities have not brought about the change themselves. Also, lack of resources alone cannot be blamed, because there have been significant increases in resources and reductions in class sizes over many of the past twenty years, without much change in the curriculum.

It is a peculiarly British view that central government should have no say in the curriculum. Some argue that the question involves liberty, but the Scandinavian countries, for example, are not usually considered to be less democratic and certainly not less libertarian than Britain. It is not even a question of left and right even in international political terms, or British terms.

The belief that the teaching profession controls the content of education is unfounded. To hold that it should do so is to favour not democracy but syndicalism. It is not the case that local authorities have controlled the curriculum, either centrally or in the form of governing bodies which by their articles are supposed to control it. All teachers know that the most powerful determinant of curriculum content is the public examination system. Public examination bodies, certainly GCE and CSE, derive their authority from the Secretary of State, who has never in fact been as powerless as he or she claimed. The balance of power between central and local government is, of course, an issue which we are considering. It may be that before long the Secretary of State for Education will be able to promote initiatives such as TVEI. All trends points in that direction. In the mean-time the MSC was able to begin the reform within its existing regulations.

Involvement with MSC has been stimulating for the local authorities, and again it is just a question of cash. The agreement on a contract, which embraces national objectives and local planning, has proved on the whole successful arrangement. Can we recall any example of curriculum change which has had a more rapid or widespread influence?

3 Is the government hell-bent on handing the control of schools over to industrialists and business-men?

No, to judge by some of its proposals. The government's Green Paper, *Parental Influence at School* rejected the recommendations of the Taylor Report that schools should be governed by a partnership which could include industrialists, in favour of majority control by parents to the virtual exclusive of industrialists. Similarly, the new body to review teacher training courses set up in August 1984, the Council for the Accreditation of Teacher Education, includes only two industrialists in its membership of eighteen; higher education is represented by seven members. Both of the industrialists are personnel directors.

Industrialists are being put in control of new institutions

- city technology colleges - but this is a political gesture for which most of them have little enthusiasm.

4 Is there a master plan

No. Although it seems sometimes that the More power Services commission, the Secretaries of State for Education, Employment and Industry and the government as a whole have a master plan, the diversity of initiatives suggests otherwise. Some schemes come and go. Others, such as YTS, are the result of an evolutionary process in which trial schemes are evaluated and modified. To those working in the field a lack of correlation between schemes rather than the existence of an overall plan is more evident.

The post-16 provision exemplifies this. For years one of the prime objects of further education was the provision of vocational courses at the behest of employers. The 1984 White Paper, *Training for Jobs*, is the basis for transferring control of 25% of funding for non-advanced courses from the local authorities and colleges to MSC. This was done during the first year of two schemes, both of which are concerned with vocational education for the same age group: YTS for the 16-year-old school-leaver and TVEI which is concerned with a continuum of study from 14-18. Coincidentally, industrial training boards are partly promoting and partly acknowledging the collapse of the apprenticeship system as an age-related form of training. There are common strands but also an increase in the variety of post-16 provision, without the roles of any branch being clearly determined.

This might seem to accord with a market philosophy: provide a variety and let the customer choose. If it is a market, it is not a free market. Financial incentives vary. An unemployed young person receives benefit and a YTS trainee receives a grant, whilst a young person who remains at school receives nothing. The society of Education Officers, in its evidence to the House of Lords Select Committee, *Youth Training in the EEC*, urged that, 'training for all and allowances should be available to all, so that no young person

is disadvantaged'. The spokeswoman for the Association of Country Councils made a similar point, saying in evidence to the Committee, 'We are worried that the financial provision, being so varied, may actually distort the pattern of choice for young people'.

Is it not ridiculous and immoral to provide increasing funding for some aspects of education at a time when general expenditure on education is being reduced?

There are two issues here and they need to be separated. The general reduction is attributable to economic policies, which you either accept or reject on their own terms. It is made more acceptable to some people by the argument that there is in any case no correlation between expenditure and results in education. This line of thought is unconvincing when it is based on the differences in public examination results between high-cost inner city authorities and low-cost home counties. It is self-evident that inner city problems cannot be tackled without major resources, the absence of which is a major cause of the problems in the first place.

However, these are general economic debates. They do not confront the second issue, which is whether it is legitimate to provide special funding to promote change, irrespective of whether the cases for increased or decreased general educational expenditure have carried the day. It seems to me, for reasons given elsewhere in this book, that the case for special funding has been made by the experience of the last few years. Change has occurred as a result; it had not occurred before.

As a national policy, again leaving aside the question of whether the present general level of expenditure on education is adequate (and that is a debate without end), it would actually be foolish to provide major increases to promote change without some partial off-setting of the costs by a reduction in general expenditure. That way the dynamic would be lost. If the new were brought in, but the old were still funded at the same level, the inertia, which is the nub of the

problem, would prevail. We need, in any case, to put the matter in perspectives. In 1984-5 the total cost of TVEI was only a little over £30 million, a drop in the ocean in national expenditure terms, although very welcome to those have a share of it.

Will the special funding continue?

A feature of all current schemes to change education and training is their central funding, in some cases with money withheld from local authorities. The TVEI is the most important for our purposes. The TVEI Extension, started in 1987, and incorporating the DES Better Schools is the national's secondary curriculum project.

Those who have embarked on the reform have done so because they have accepted its historical significance and because they were keen to act as pilots. Their assumptions that change has to happen and that they are charting a variety of courses, which others will choose between in order to follow. All of the routes are expensive. The costs are being carefully monitored. Doubtless it is hoped that the less expensive routes will be effective, but there are not cheap routes. It is also a journey without end, so that funding for it cannot stop after a few years. Doubtless some of the costs need not be additional and can be funded by substitution, but this will not be enough. Computer-numerically-controlled machines are more expensive than history text-books, electronic components than pens and pencils, computer disk than file paper. Since keeping pace with change in technology is one of the objectives, it may be that some of our most expensive equipment will have a short life; perhaps we ought to think of computer networks costing £15000 or more as revenue rather than capital expenditure.

It will be noted also that MSC, a government agency, is promoting smaller classes, adequate equipment, in service training and monitoring and evaluation. Its models are based on assessing what is needed to do specific jobs. It is a different approach altogether from the DES, which starts with a cake

and then divides it. TVEI starts with the need the then provides it - well, almost. The implications for government funding of education are interesting. MSC and TVEI are making a very effective case to the DES and government for greatly increased funding for education. It is a delight that it is a government agency and not be education lobby or pressure groups which is making the case.

The remaining questions whether, having launched a major curriculum reform, the government will continue to provide the resources to sustain it.

If government money is not forthcoming should we go to private industry?

Industrialists' views on this are given in *Trespassing?* Businessmen's views on the education system. Some industrialists favour more private funding. Sir Kenneth Corfield, Chairman of Standard Telephone and Cables asks for 'multi-sourced funding' of education, but Kenneth Durham, Chairman of Unilever, observes that, 'Industry already largely provides the finance for education through the tax regime'. Leaving aside the contributions which individual tax and rate-payers contribute, the remark is important. There is little evidence to suggest that, when industrialists talk about contribute, the remark is important. There is little evidence to suggest that, when industrials talk about contributing to education on the grand scale, they intend to forego profits to bring it about. They are in fact talking about alternative is in the method of making contributions. Their direct contributions of new money. The issue is not one of finance but of control.

The question arises only because some industrialists consider that education, with its present national and local controls, is not responsive to their needs. This view might, in any case, be considered a little out of date. MSC has not been inactive in this matter.

In the USA there is clear evidence of where an excessive dependence on private funding for public education leads.

Apart from the vulner ability of the service to the variable fortunes of individual profit-making enterprises, the evidence in the USA is that it does not create a good service. In state after state commissions, often led by prominent industrialists, have reviewed the public education service and recommended enormous increases in public spending. It would be strange indeed if we were to follow a route the inadequacies of which are increasingly exposed in the country which has the largest experience of it.

If we are not being adequately funded should we try to raise money with flag days?

All schools raise money and seek out free material. The activity itself can have social as well as financial benefits. Few schools can afford to remain aloof from such activities. There are dangers, however, in thinking that major curriculum reform can be financed by jumble sales, barbecues, appeal to parents, and inveigling money from industrialists.

There is a need to include in the balance sheet the amount of staff time, especially senior staff time, which such activities take up. Curriculum change is itself expensive in staff time. It cannot be done without many working parties, conferences and staff training sessions. That is where any surplus staff time and energy should go. The phenomenon of the school which decides to get its computer equipment together by fund-raising and only once that is achieved considers how to use it in the curriculum, is everywhere to be seen. The report by Her Majesty's Inspectorate on Computers in Learning in Welsh secondary schools in 1983 concluded that, 'It is rare to find in schools an explicit rationale and statement of aims and objectives for the development of computer-aided learning'. The staring point should be curriculum planning.

Allied problems are the role of the head, the variable ability of schools to raise funds because of variable catchment areas, and the effect which differential funding has on the parental choice of secondary schools. before the 1939-45 war, when public schools were in financial difficulties having earlier committed themselves to capital programmes and the

consequential debt charges at a time when a boom in demand was expected, their headmasters had to begin touting for money and for pupils. The result was described by Sir Cyril Norwood, former headmaster of Marborough and then President of St. John's College, Oxford, thus, 'Thus worse drives out the better currency: the advertising headmaster succeeds, the headmaster who minds his proper business, and puts education first, fails.' He was also concerned at 'the progressive lowering of professional standards' and the time lost by headmasters who were 'spending half their time in commercial travelling and touting'. Canon Spencer Leeson, headmaster of Winchester, Commented. 'I foresee a period of years during which governing bodies will commit themselves to expenditure upon equipment and general window-dressing, in the hope of attracting parents. The rules against advertising the Conference have adopted will, I fear be tacitly abandoned and anew atmosphere will come into English education, with serious effects upon the morale of it and upon the values which we try to uphold. We live in less fastidious times, but the lesson remains valid.

The reform is too big to be financed by fund-raising and too important to be vitiated by discriminatory funding which is its consequence. A time of falling rolls is not the easier time to be introducing major change in the curriculum. Falling rolls cause nervousness and insecurity amongst teachers, create large numbers of teachers of traditional subjects who need to be re-deployed, and make it more difficult for schools to maintain existing courses. The reform needs to be properly and publicly financed for all schools and not brought in piecemeal only for those who have the greatest fund-raising opportunities and are willing to divert that most precious resources of teacher time to it.

The school is, in any case, too small an institution to carry the reform. Groups of schools and colleges needs to plan within a local authority and national framework. Group planing is not compatible with rigorous, competitive fund-raising.

Is it not immoral to choose some schools to be the beneficiaries of extra resources in pilot projects?

Yes, but you have to start somewhere and take care to minimise the adverse effects. Dissemination from the pilot projects to a larger number of schools poses the same problem, unless funding is available to change all schools at once, which it is not. There are two problems which will require the spread of reform to be phased. The capital costs of the new courses are high and there are insufficient teachers with the appropriate skills and the right approaches to move very quickly.

There is no national answer to the questions of fairness and equality of opportunity. Local authorities can however, reduce the problems by planning change by groups of schools - division or other definable catchment area. If this is not done several difficulties arise:

- (a) Parents would find it objectionable if one school were showered with new facilities (building adaptations and equipment) and another nearby were not. Some differences in expenditure are acceptable when they apply to 'extras' such as swimming pools, but they are not acceptable when they are applied to something as fundamental as the modernisation of the curriculum. A modern curriculum is as much a young person's right as a place on a YTS course, which is virtually guaranteed. If local authorities cannot guarantee the new curriculum to all young people immediately, it would minimise parental objections to proceed by areas, in order that young people in the same locality do not receive vastly different resources.
- (b) A favoured school might gain considerably in popular esteem at a time of alling rools and the active promotion of parental influence and choice of schools. The nomination of the school to benefit would be fraught with political difficulties and deeply divisive in communities and the teaching profession. It is not the way to proceed with curriculum reform, if we hope to persuade all schools to change.

- (c) On the other hand parents might shun the favoured school on the grounds that it is 'experimental'. Certainly a prestigious neighbour with a traditional curriculum which it wished to defend would not feel threatened. We have the paradox of centrally-led curriculum reform which might founder on the rocks of parental choice, with both movements being strongly backed by government.

All factors point to planning on the basis of groups of schools according to a phased programme determined by the local authority within a curricular framework to which both the local authority and the Department of Education and Science have contributed.

10 Is it sensible to resist?

There is no doubt about the government's intention to have change. What the government has put on trial is the ability of the comprehensive school in particular and the education service in general, to cope with change within existing frameworks. The threat is to set up separate technical schools if the comprehensive school cannot absorb the reform.

In the furore following the prime ministerial announcement of TVEI in the autumn of 1982, and the day before local authority associations were due to see Sir Keith Joseph to express their alarm at the turn of events, the then chairman of MSC, David Young, made the position clear to Education. 'We are doing it this way,' he said, 'because we in the MSC can do what the DES cannot do - we can set up schools. In case there was any doubt, he added, 'Our lawyers have told us we have the powers under the 1973 Employment Training Act, and we have the Prime Minister's authority to do so.

Indeed there are reasons for the thinking that a very important person thought that TVEI was setting up technical streams in the comprehensive school. 'There were technical schools, a small number, under the 1944 Act,' he said. 'They never spread as was originally intended, and I think that we want to encourage the reintroducing of the technical stream

within the comprehensive school.' There are reasons for thinking that an even more important person thought that TVEI was in fact establishing separate technical schools. Asked whether we had enough skilled workers for economic regeneration, she referred to the 'new technical schools for young people from the age of 14-18' which were about to be started.

At the Conservative Party Conference in the Autumn of 1986, a new Secretary of State for Education, Kenneth Baker, announced the intention to set up city technology colleges, financed and run by industrialists. This decision was purely political, it was an irrational act, coinciding with the extension of TVEI. Conservative education authorities and industrialists condemned it. What a tribute to TVEI!

Approaches to Curriculum Planning

The different approaches to technical and vocational education and its relationship to the rest of the curriculum were considered. The following five case studies exemplify different approaches and the are written by people who have taken leading parts in developing them.

Abergele Comprehensive School has confronted two problems of the 14-16 curriculum - the ills of option choice and the difficulty of introducing new learning methods and skills such as those of TVEI - and achieved solutions by the radical method of designing modular courses, validated at O level and CSE.

There were four main objections to the traditional option system, by which each student chooses from a wide range of courses.

1. The two-year subject-based course is a strait-jacket, occupying about a tenth of a student's time for two years, with a pre-determined content.
2. The choice of subjects, whatever the quality of teacher advice, is a crude compromise between dimly-perceived student aspirations, teacher assessments and, above all, the need to match students to the numbers of class places available.

3. The decisions taken at 13+ are irrevocable, and all teacher influence thereafter is used to prevent a change of course, so that the deal concluded between the student and the school in the Summer term of the third year is not the practice re-negotiable.
4. The option system does not admit any new aspects of study, unless they can be developed into two-year courses (or subsumed within an existing subject with its existing approaches) and, even then, they can be ever-increasing list of options.

The solution

When commissioned to rectify the ills of the 14-16 curriculum, a group of staff members aimed to replace a substantial part of it with more, but shorter courses, and with genuine student-teacher decision-taking at regular intervals. The formula consisted to a substantial core. Outside the core a major curriculum innovation was recommended. Continuous two-year courses would be replaced by a series of shorter learning modules which could be added together, like bricks in a wall, to form traditional O level courses if required, or alternatively could be studied as individual learning packages purely for interest's sake. This idea is by no means unique: the Open University, B/TEC courses and further education already operate this system. Indeed, the Abergele Comprehensive school had practiced this method in Sixth Form General studies for many years.

The modular approach

The scheme meant that pupils negotiated 30% of their curriculum every nine weeks. The remaining 70% was entirely traditional in its structure and content. The series of modules available to students in the 30% portion were wide and varied and each course was prepared according to asset of criteria laid down by the school's planning committee, and also incorporating the requirements of TVEI. Some of the manor elements which form a basic part of every learning packages are that:

1. the courses should include learning by four modes—abstract concepts, active experimentation, concrete experience and observation and reflections.
2. there would be no discrimination between students on the basis of race, sex or ability.
3. the negotiation should be genuine rather than 'convenient advice-giving'.
4. the modular courses would last for 40 hours over nine weeks and be organised in 18 sessions made up of two consecutive afternoon sessions per week.
5. each pupil studies two modules, the first being taught on Monday and Tuesday afternoons and the second of Thursday and Friday afternoons. In some subject areas there are hierarchical modules proceeding through different levels from one to four. Other modules are independent and free-standing.
6. the modules could be grouped together to form examination courses such as O levels.
7. students who are not satisfied that they have successfully completed a module could repeat it.
8. an effective profiling system would be developed based upon 'can-do' checklists available for each module.
9. strong links with industry of commerce would be promoted whenever possible - not primarily for vocational purposes, but to encourage industrialists to appreciate the good work that teachers do.
10. there are three dimensions to the assessment programme. Firstly, pupils complete 'can-do' check lists during each lesson and with their teachers draw up a profile of achievement on each course.

Secondary, pupils are required to complete projects, which are often, in conjunction with the high technology centre at Bodelwyddan Castle, assessed and evaluated and

these make a 60% contribution to Mode 316+ examination prepared by the school. The final 40% is completed by 'end of course' assessment in the form of an examination.

The purpose of the reform

While some of the subject titles included within the modules are attractive and exciting there is a danger of misinterpreting what is being attempted. The purpose of the venture is not to produce effective and efficient word processor operators, nor computer wizards, nor David Baileys in photography: the school's priorities lie with process and no content, for the way pupils learn is as important as what they learn. Thus an attempt is made to provide them with a range of skills that will effectively enable them to learn whatever they wish, and enable them to be confident and competent in the handling of the affairs. Further more, the school is convinced that if the process is right then the outcome will be better. There is no policy to undermine or to discredit the present examination systems. The aim is to discredit a learning system which encourages youngsters to learn from notes and by cramming for the sole purpose of passing examinations. While it is desirable to compare young people to absolutes via criteria references there is no objection to pupils being subjected to norm referencing processes either. The curriculum is therefore entirely in tune with examination requirements for those who wish to avail themselves of the facility. For example, four Physical Science modules enable pupils to enter the O level examination in that subject. This is, of course, merely a rough guide, as able and interested pupils can progress far more quickly and accordingly may need less time than some of their less accomplished peers.

Acceptance of the reform

The changes have received enthusiastic approval by the three groups who matter most:

Pupils and parents

The wide range of subject titles available in the modules have

appealed to all pupils and there is little doubt that there is an air of pleasure and purpose during the four afternoons per week when these new courses are being taught.

The individualised learning schemes coupled with wide range of learning aids, including a large number of BBC Model B microcomputers, ensures that pupils can, and do, progress at their own rates. The group sizes, which average about sixteen but never exceed twenty, are ideal for teachers who wish to monitor closely the progress of their pupils. Ironically, even though the major thrust of the curriculum funding was to develop technical and vocational education, the pupils see the development in a different way. Their perception of this new curriculum is that it helps them to 'get to know their teachers better'. Deeper involvement in learning and improved motivation are the evident gains for the pupils.

In the first years of the scheme pupils had a choice for 30% of their curriculum between the traditional single-subject options and the new modules. 85% chose the new. Such is the success of the change that for the second year the whole group went over to the new system and there was no need to retain the traditional system.

Employers

It is pleasing to see the degree of respect afforded to the school and its staff. One notable industrialist declared that what he had seen during a visit to the school had exceeded the hopes he held for education in ten years' time - a compliment indeed!

Recently, the school has been informed by another important local employer that it is making a substantial contribution to the acquisition of a weather satellite receiver in recognition of the excellent work being carried out by the school.

The local HTV production team, based at nearby Mold, is regularly in touch with the school and advises and involves the teachers and the students not just in TV production but in all of the module study packages.

A team of ten employers contribute their services every nine weeks to run a group of students through practical interview programmes at one of the local industrial/commercial settings.

Examination Board

Where no examination existed the school submitted its own Mode 3 programmes and the Welsh Joint Education Committee has already ratified four of them. Consequently examinations in control Technology, business Systems Media systems and Communications Technology are all available as Combined Syllabus 16+ examinations.

The future

there is much pride at Abergele that these ideas were formulated entirely at a local level. Whilst other elsewhere are proposing or planning similar developments the teachers have show that one school can achieve it.

The best, as they say in Hoolywood, is yet to come, and the excitement that the second year of the programme is generating exceeds even that if the first year. The prospect of pupils of the Fourth and Fifth years pursuing modular courses in the same class is yet another step forward and this will, eventually, be followed by Sixth formers joining them. Ultimately it is anticipated that class groupings within the school will not be controlled by age but by interest, ability and enthusiasm. The days of stratified classes are numbered; this curriculum scheme recongises that students are individuals and that their progress should not be controlled by that of their peers or of a rigid unchanging curriculum.

Taking up TVEI in 1983 was to participate in the most searching interrogation of the existing curriculum. Sand-well schools believed that in taking up pre-vocational education, some of the answers to their questions about the curriculum should be sought at the fountain head of all such work in the country, B/TEC. CGLI and RSA, their philosophy and materials meeting four of the most fundamental criteria which

had to be satisfied in a readily accessible form:

- 1 They offer a complete breakway from the fragmented, subject-based curriculum. If the timescale for change is short, there is more to be gained by asking teachers to meet the challenge of a new format rather than attempt a re-orientation of the existing O level/CSE system.
- 2 Forms of assessment are more fully developed to include non-academic activity - 'the achievement of learning objectives being more important than the grading of students into academic categories.
- 3 The qualifications have national currency certainly in the worlds of industry and commerce and are therefore more likely to attract the abler pupil.
- 4 It seemed, at first, that there was the real prospect of a 14-18 progression inherent in the B/TEC structure, our expectations, there is still great scope for developments within a framework that becomes more flexible by the day.

The sandwell approach

In true pilot style, Sandwell agreed to develop BEC and TEC programmes both pre and post 16 in a variety of institutions, thus offering the opportunity for real collaboration between B/TEC and the school system. The following arrangements were agreed for a September 1983 start:

- (a) Locally devised BEC and TEC programmes in the same 11-18 school leading to BEC General/National or TEC Certificate. The school adopted TVEI as a mechanism for curriculum change and decided that a whole school policy would be enhanced by targeting the more able pupils. B/TEC supported the initiative by offering a two O level equivalent 'Record of Success' for accelerated progression to BEC National. Students would develop an understanding of the work of technicians in the context of local industry and commerce, while gaining access to higher level B/TEC courses and, it was hoped, higher

education; they would gain confidence in keyboard skills and the application of modern technology; they would extend their range of study capabilities by means of such devices as cross-modular assignment work.

- (b) Technician Studies (Engineering) in three 11-16 schools with further education links leading to TEC Certificate (4-year course).
- (a) Technician Studies (Science and Engineering) in on Sixth Form College leading to TEC Certificate (2-year courses).
- (b) TEC Certificate in second sixth Form College level III links with college of further Education (2-year course).

Problems of implementation

Given the constraints of time and the teachers' limited experience of his approach to curriculum planning, guidance from B/TEC was vital, but could not answer all of the questions, which arose from the need to solve problems and test solutions as the courses progressed. these are some of the initial findings:

- 1 Courses designed originally as theoretical support materials, e.g. TEC units, do not translate directly or simply to the school situation. A CSE grade 2/3 student at 17 with the practical experience of the workshop and a greater degree of maturity behind him/her goes to college with rather different expectations and needs from his counterpart in school 14-16 level.
- 2 Teaching materials must take account of the above factors.
- 3 Classes of mixed ability with larger numbers than envisaged in the original design of B/TEC courses demand a high degree of new skills in the preparation and teaching of assignment work.
- 4 Interestingly, both in the school situation, where longer sessions have been allocated to the technical and vocational studies, and on the colleges links, where longer

periods are traditional, pupils are reacting against 'more of the same'. The opportunity for them to take a greater degree of responsibility for their own learning has not yet been fully explored by teachers, who would need to be released from teaching to plan a more varied programme.

- 5 B/TEC qualifications without an appropriate input of 'off-the-job training' are suitable only the those following the higher education route. Bodies such as EITB (Engineering Industry Training Board) demand that practical skills training goes hand in hand with further education. The advent of school-based programmes has already prompted questions about our age-related system of further education and training. Another spin-off has been the need for all sectors of education to look more closely at co-operation over the sharing of resources.

What price initiative?

In the quest answers to the ever increasing number of questions, we must remind ourselves, as well as our critics, that the 'I' of TVEI is the major stimulus of all the activity generated by TVEI. In the context the constraints of the school system and its interface with the world of industry, commerce and, indeed, further education can be must be worked through.

Curriculum initiative must be tested fairly and in as unadulterated a form as is possible. If we succumb to the 'safety net' syndrome perpetrated by many head teachers under the guise of parental pressure, then the full-blooded test that is required to give validity and credence to new courses and qualifications cannot be fully implemented and only a pale, insubstantial substitute will be compared with the 'safer' but less satisfying alternative. The signs are that many teachers are being frustrated in their efforts to change their style of operation, by having to meet the demands of two totally different formats.; The less ambitious teacher will retreat behind the traditional and familiar and add whatever

liable is asked of him.

Unless the prevocational value of the educational experience that is built into B/TEC courses is emphasised by the proper induction of teachers - and the Council carries a responsibility for that - then there is little case to be made for recruiting pupils from the conventional O level/CSE pathway.

Hereford and Worcester

Hereford and Worcester's TVEI plan had to satisfy two objectives. First, it had to suit a wide variety of schools, some with post 16 students and some without, four in the city of Hereford and six within a range of up to 23 miles, and with rolls ranging from 200 to 1300. Second, it had to provide the focus for curriculum change within the technical and vocational elements and, as is increasingly accepted, have a fundamental impact upon the whole curriculum. It was decided that both objectives could best be achieved by the establishment of a Centre in Hereford, to which pupils go for two half days a week (six hours) from the age of 14 to 16.

The division of time between the Centre and school and between the technical and vocational education and general education.

Curriculum programme

The first two years of the curriculum programme include 70%-75% of general education undertaken by the schools and 25%-30% of the technical and vocational education option provided by the Centre and departments of the colleges of further education. It was not intended, however, that the courses should be tightly and exclusively scheduled in those precise terms in practice. In each year the Centre and the colleges would expect to make a contribution to the general education element and the schools are preparing to respond to some of the requirements of the skills led curriculum pattern of the technical and vocational programme. In this way it was intended that young people who opt for this scheme would

have a range of examination qualifications open to them which were at least as favorable as those who do not. The range of CGE and CSE subjects for pupils on the TVEI option would be extended to include those which were currently being developed by CGLI and RSA and possibly at a later date those by B/TEC and others. It was also intended to provide a student profile and for the Local Education Authority to issue a Certificate of Achievement.

An example of a study programme for the those expecting to take GCE and CSE examinations.

Technical and vocational education curriculum

On entry to the technical and Vocational Education programme at the Centre there is an induction period (one or two visits) followed by sixteen sessions (eight weeks) in which general skill potential of the entrants is assessed on a programme devised by the staff of the Centre and associate colleagues under the leadership of the Senior Tutor responsible for Vocational Preparation. After this short introductory period the programme is based upon assignment work applicable to differing levels of ability which is undertaken in eight vocational and highly technical studios. The studios are named: Business, Computers, Personal Service, Communication, Electronics, Land Based, Design and Production, Food Preparation and Hotel Services.

The individual assignments seek to enhance the skills of the students and are intended to interact with the skills areas in the general basic programme available in schools. The skills outline can be translated into subject areas and the following descriptions are used: Communications, Numeracy, Computer Literacy, Micro Electronics, Office Practice. Use of Library, Information System,s Personal Relationships, Problem Solving.

The element of the technical and vocational curriculum which falls to the schools' direct responsibility in this first year was seen as being related to those aspects of numeracy and communications which could be carried through the options

which had already been selected by the students. Further more details planning was intended as the four-year course evolved and then, importantly, included identification of time within the option arrangements to co-ordinate the main part of the students' programme in school with that in the Centre.

Revisions based on initial experience

Three fundamental developments from the original plan have been agreed.

- 1 Following discussion of assignments to be provided in year two it was thought sensible to provide as much as possible of the programme in the Centre.
- 2 It was decided that there was a need to introduce a creative arts elements and a ninth studio will feature from the second year onwards. Some change of the emphasis in the assignments was thought necessary in the electronics, personal services and design and construction area.
- 3 It was decided to seek a accreditation in the form of City and Guilds of London Institute Vocational Preparation Certificate as a first provisional arrangement. The implication of this for the schools is the direct involvement in the work required for a social, economic and environmental studies part of the overall examination requirements. This project has now obtained validation from the Midlands Examining Group of O level certification.

The main emphasis

One year of experience in technical and vocational education at the centre has confirmed a view that the initiative is as much about developing young people as it is about developing highly technical subjects. If any thing, the Hereford and Worcester programme places priority of emphasis on the former while recognising that the latter can be the means of motivating young people to learn and the adaptable and affable.

Hertfordshire

The starting point for curriculum planning in the Hertfordshire TVEI Project was an assessment of skills and experience likely to be needed by industry and business both locally and nationally. It was decided that the TVEI aspects of the curriculum should include:

- industrial studies; how business functions in all its aspects;
- computing and information technology;
- modern engineering design and craft using computer numerically-controlled machines and computer-assisted design;
- electronics;
- modern electronic office skills;
- industrial technology;
- an understanding of the manufacturing process from the identification of the need for a product, through its design, prototype, manufacturing, testing, packaging and marketing phases.

Two tests were applied to these groups of skills and understanding: they had to be relevant in general terms to careers which seemed to have a future and they had to be justifiable educationally in competition with traditional courses.

It was also decided that, if students from the full range of ability were to be attracted, the new courses would have to be validated to GCE O level, CSE and, for the low achievers, through the Hertfordshire Achievement Project. This decision was taken with a full awareness that GCE boards were not generally sympathetic to the new subjects, or to the learning and methods which we were promoting. We considered that to be an easier nut to crack, however, than persuading able students and their parents to forego say three out of the eight or nine O levels.

Our objective were translated into seven 'subjects' for the purpose of public examination. Six subjects were paired and admitted to the curricula of ten school in three option blocks:

- Computer studies and manufacturing technology
- Electronic instrumentation and modular technology
- Information technology and office technology and communications

Industrial studies was initially taught as an examination subject, following the syllabus devised by Understanding British Industry. It is hoped that we may return to this, but the overloading of the observed time for technical and vocational education led to a decision that industrial studies should consist of five unexamined eight-hour modules of study and should be incorporated in the students' core studies. One school has kept the course an an examination syllabus in its option scheme. This plan for curriculum innovation is deceptively unadventurous, but the introduction of new options is leading to bigger changes:

- a demand from some schools for more technical and vocational courses and proposals from staff not directly involved in the changes made far;
- an interest in modular courses to span the time allocation of more than one option block;
- an extra impetus to existing pressures for major curriculum reform;
- a desire by teachers to use opportunities for in-service training to re-orientate their careers and teaching methods.

The relative simplicity of the centrally-directed initial reform established principles and practices in the schools which in turn led to a demand for bigger change from some of the schools and their staffs. Thus we have moved quite quickly from an external imposition on the schools to a realisation

with some schools of the possibilities now open to them and a desire on their part to take control of the process of change. Not all schools are equally ready for change, and the fight for existence against a background of competition, born of parental choice of secondary schools and aggravated by falling rolls, is not helpful. Nonetheless, change is how likely to be radical, that it, it is likely to spread beyond the needs of technical and vocational education and to come from the desire of the schools themselves.

One of the most valuable aspects of the project has been the method of writing syllabuses. The courses are prescriptive, in the sense that content and an understanding of processes and techniques are important. The classes are, however, for the most part mixed ability and much emphasis is placed on individual learning. These factors are compatible.

Syllabuses have been devised in different ways. The electronic instrumentation courses exemplifies one approach. It was written largely by a group of physics and technology teachers, with some help from advisers. The first detailed outline was discussed with a production manager from a major manufacturing company and the training officer of a major company which sells and services electronic equipment. Fundamental disagreements, between the employer representatives as well as between them and the teachers, were resolved that an agreed proposal was put to examination boards. The GCE and CSE boards jointly offered to work with us to improve the syllabus further. Again there were disagreements, but the fundamental nature of the course—its emphasis on practical work and the application of knowledge—was not undermined. The formal submission for validation was the result of teacher—employer examination board collaboration: Similar paths were followed for the other new courses, although these all needed a much bigger contribution from the specialist centrally-appointed teachers who had been recruited for the project.

Barnwell School, Stevenage

Origins

Barnwell School, in addition to being involved in the TVEI scheme, is also a pilot school for the DES Low Achievers Project; in Hertfordshire this project has been designated as the Hertfordshire Achievement Project.

As a result of discussions between the directors of the two projects and myself, a working group was established in the school to design a course which would embrace the aims of TVEI whilst at the same time extending the scope of the scheme to include the least able pupils. The Design and Manufacturing course was the result. Reactions from the pupils and from the staff involved have been very positive. The pupils are clearly well motivated, and are able to see much relevance in the mathematics and communications skills which they are developing through the practical projects.

The course

The principal aims of this course are to develop practical skills relevant to pupils' future needs, and to improve basic mathematical and communication skills through involving pupils in practical projects.

Pupils will be taught a range of basic skill, from do-it-yourself, fabrics, art and pottery to keyboard skills. In each of the areas, pupils will be expected to develop the skills necessary to appreciate the problems in designing, manufacturing and marketing the products which they make.

It is intended to simulate an office situation, with typewriters, computers and telephone switchboard, to enable pupils on the course to develop the skills required in a modern office; pupils will be expected to deal with all the transactions involved in the

Making of their practical projects.

The teachers involved in this double option course work

closely together in the planning and implementation of the work. There is a certain amount of team teaching involving the mathematics and English staff alongside the teachers of the practical side subjects to ensure that the mathematics and English teaching can be directly related to the practical projects. This is seen as being a fundamental importance. It is essential for members of the teaching team to meet regularly in order to co-ordinate the work, to evaluate the course and to assess pupils' progress.

Courses objectives

1. To introduce students of the concept of investigating and understanding materials and situations as a starting point for the solution of design problems;
2. To introduce students to a wide range of methods for recording and evaluating information;
3. to involve students in individual practical experiments designed to promote understanding of;
 - (a) the inherent properties of the range of materials under investigation;
 - (b) the possibilities and problems relating to the use of the materials in a manufacturing process;
 - (c) the recording and tabulating of results using computer facilities as required.;
4. To use the process of describing, recording, estimating and evaluating as a means of increasing the student's basic understanding of English and mathematics;
5. To develop pupils' confidence in dealing with communication methods; using typewriters, telephones, computers (for information storage and retrieval), photography and simple reprographic processes;
6. To give students a range of skills relevant to situations which will arise in adult life. These will include;

- (a) actual practical skills in do-it-yourself techniques
woodworking, electrical, painting, plumbing;
 - (b) skills of investing, recording and evaluating;
 - (c) numeracy and literacy skills;
 - (d) the ability to work as a member of a team, understanding
the need to organise, manage and plan activities;
7. To use all of the above skills in relation to real-life
practical situations. Pupils are involved in design/
problem solving exercises involving batch production
and marketing. It is envisaged that they will produce
saleable goods.

Course outline

Underpinning all of the practical elements of the course is the
assumption that these elements will provide a very significant
stimulus to the work done in English and mathematics. The
fourth year course will consist of three basic modules:

- 1 Home maintenance: the house is seen as a design problem
- basic needs and how they are satisfied, with four
elements :
 - (a) decorating, including tiling;
 - (b) DIY woodworking using modern tiling;
 - (c) plumbing;
 - (d) motor maintenance.
- 2 Fibre and fabrics: investigation of properties, uses and
costs, with consumer surveys, fashionwork, a project and
a factory/laboratory visit.
- 3 Keyboard skills; Instruction in the office skills room in
preparation for work in the simulated office.

The fifth year course will consist of three further models;

- 1 Pottery; introduction to industrial design and pottery
production methods, production of wall-cladding tiles

using local clays, production of a piece of domestic tableware.

- 2 Art; advertising a product including the production by students of photographic and television film material, and involving language/number skills.
- 3 CDT maintenance; the do-it-yourself aspects.

Accommodation

The course use existing facilities for art, pottery, CDT, home economics, and office skills, ehanced in some cases with additional equipment.

Central to the course is the provision of a simulated office. This is situated in the craft block adjacent to the art rooms and workshop. Much of the English and mathematics work will be covered in the office situation, together with design work for a number of the projects.

Pupils are involved in all the administrative tasks related to their practical projects - the compilation of estimates, letter writing, invoving, simulated telephone calls, and so on. Pupils will use the office in small groups to work on particular assignments.

The office layout reflects as far as possible a commercial installation with carpet, cartains, appropriate furniture and equipment.

Validation

The Hertforshire Achievement Project has already developed forms of validation which include profiling and involve employers with pupils in assessment procedures. These will be extended to include the Design and Manufacturing course.

Guidance and counselling

Purposes

Guidance canbe defined as a helping process concentrating on the individual's needs which may be educational, vocational,

personal or social. The aim of guidance is to foster personal development by enabling the individual to use his/her own resources to solve or tolerate problems, to take responsibility and to make independent decisions. Guidance assists students to take maximum advantage of the educational system and to make realistic plans for the future. It seeks to promote self-understanding, self-direction, exploration and participation in learning, and thus involves the student in active learning.

Young people are unique individuals about to experience many new situation in a rapidly changing world. No-one can predict with any high degree of certainty the changes that will occur in the future and how these will affect any individual's prospects after leaving school. Therefore the emphasis in guidance has to be on the process of counselling rather than on advice-giving.

Changes in the curriculum at 14+ and 16+ will provide pupils with increased choice of courses, including those of a vocational nature, ranges of modules or options within these courses and also subjects not previously offered. Such changes have implications for the way young people and their parents are prepared for decision making and also for attitudes and approaches guidance work in schools. The current curricular developments place more emphasis on student-centred learning and regular feedback on progress via joint reviews by teachers and students of the skills being developed. This requires all teachers to acquire guidance and counselling skills.

Guidance and assessment are a set of processes that underpin learning and ensure that the learner can be assisted to make connections between what is being learned and how such skills, understanding and knowledge may be utilised subsequently.

Procedure

The process of guidance consists of four main elements:

- 1 Appraisal-enabling the individual to discover

information about himself—his abilities, interests, needs and values—and thus to build up a realistic picture of himself. Only if aware of these aspects is a person in a position to make realistic choices. 2 Information—providing the individual with facts about future alternatives and the skills to interpret and use them, e.g., courses in schools, further education, higher education, youth training schemes, employment, resources in the community.

3 Orientation—assisting the young person with adjustment to new situations and helping him to anticipate any difficulties which might occur at transition ages.

4 Counselling—the establishment of a professional relationship with an individual in an interview in which a young person is encouraged to talk about himself. In this way he can be helped to clarify his needs, the reasons for any problems which he is encountering and the steps which can be taken to help overcome them. The attitude and interviewing skills of the counsellor are of paramount importance in this process. The attitude has to be one of respect for the uniqueness and worth of the individual and a desire to demonstrate empathy, i.e., seeing things from the individual's point of view. In this climate of acceptance and understanding a young person can be helped towards self-understanding, so that he is free to face facts and deal with them more rationally. The counsellor helps the young person to acquire understanding, not only of his capabilities, interests and opportunities, but also of the emotions which are interfering with rational choices and appropriate behaviour.

The opportunity for young people to discuss their ideas and educational and vocational choices in a counselling session is particularly important with the introduction of vocational and technological courses for the 14-18 years age group. This need is increased by the importance being placed on the breaking down of sex-stereotyped attitudes and choices

by young people. Here is a prime example of decisions being affected by many factors, including emotions, which are not going to be changed by a mere information-giving programme. It is wrongly assumed at times that when occupational information is given to young people, they assimilate it, store it away and use it as needed. Infact information-giving is only effective when focussed on the needs of young people as they recognise them at the time, and is best when combined with individual counselling. The latter is necessary to help the young person to realise his needs, seek appropriate information, apply it to himself and accept its implications.

Implementation of guidance in school

One of the problems facing many schools in that of a fragmentary approach to guidance work with pupils, when the objectives should be those of dealing with the young person as a whole and continuity of concern. Different aspects of pupils, for example the academic/educational, vocational and social-personal, tend to be dealt with by different staff at different times of their school career. There is often little structured communication between the various staff involved and seldom a coherent guidance policy worked out. In many cases there is no one person with responsibility for establishing a programme of guidance throughout the school. There is a need for the work of staff to be co-ordinated, for the effectiveness of the school's guidance policy to be evaluated and for staff training.

As vocational courses are introduced into schools, bringing with them increased links with colleges and industry, the need for co-ordination of guidance work with pupils is even greater. Pupils are likely to spend increasing amounts of time in more than one school (consortia arrangements) and in organisations other than school. They will be dealt with by a variety of personnel with contrasting attitudes to education and training and levels of experience of dealing with 14-18 year olds. It is vital that procedures within and between establishments are co-ordinated and harmonised, so that

similar guidance and assessment procedures are adopted and so that lines communication between staff are establish and responsibilities defined.

Guidance in practice

This commonly consists of:

- 1 Classroom session, as part of an intergrated social and personal educational courses. Given the world for which we are trying to prepare young people, the appropriateness of a careers education course as an entity in itself is doubtful as is also the title, however broad the objectives of the course might be Social and personal education courses are already established in some schools and provide a much more cohesive and balanced approach, with the use in some programmes of thematic appraoch throughout year 1-5, e.g. world of work, human growth and development subdivided into modules appropriate for different age groups. The emphasis on practical experience and discussion in such courses is very important. Business simulations and games can be valuable as a means of developing decision-making skills, initiative and enterpirse, together with an understanding of industry. it is also important that young people are given an understanding of the world of work and the economy, including structural and occupational changes in industry and local changes, so as to reduce the sense of personal blame which tends to be attached to unemployment. As vocational courses are introduced however, it is important for staff to avoid duplication of topics of approaches which may form part of such courses as well as being of relevance in a social and personal education programme.
1. Group guidance—a practice used relatively little but which can be most effective and has certain advantages such as:
 - (a) help to develop social skills;

- (b) can improve self-confidence when a pupil realises other have similar problems;
- (c) identifies those in need of individual guidance;
- (d) more economical in terms of time compared with individual counselling;
- (e) young people are often willing to discuss problems with their peers that they would find difficult to talk about in a personal interview;
- (f) young people sometimes accept ideas and suggestions which emanate from their peers and which might be rejected if proposed by an adult;
- (g) the teachers can inject occupational information into a discussion when a need is defined. Group work is better suited to certain activities, such as dissemination of occupational information (based on pupils grouped together according to similar interests), investigation into sex-stereotyped attitudes, choice of work experience placements and the follow-up work.
- (h) can provide insight into problems of adjustment to work and adult life.

There are obviously some disadvantages to group guidance. For example some young people do not wish to bring up problem or talk much. It is better suited to vocational and educational guidance and dealing with social or emotional difficulties.

3. Individual work with pupils, for example counselling and profiling
4. Psychometric testing, for example the use of interest inventories for clarifying in general terms the types of activities the pupil enjoys and finds interesting and types of skills he would like to develop, related to broad occupational groupings. Some objective assessment of ability can also be helpful as an indicator of patterns of ability, highlighting particular strengths of weaknesses,

for example verbal reasoning ability and non-verbal (spatial) ability. This can provide information helpful for guidance purposes particularly where there are marked discrepancies between test results and performance in school subjects. However, great care has to be taken with the selection and use of tests. Many are out-dated, use sex-stereotyped illustrations and are not well standardised or validated in the U.K. Only staff with a training in the use of psychometric test material should handle the raw test scores as there are great dangers of misinterpretation;

5. Computer assisted guidance aids—as pupils become more familiar with the use of computers as a learning tool it is logical that they should use this means for obtaining careers and local employment information and as an aid to self-assessment;
6. Community guidance—use of adults other than teachers, including employers;
7. Referral—use of specialists such as careers officer and school counsellor where more specialist knowledge or skills are required;
8. Case conferences—in situations of particular complexity it can be useful to bring to the range of personnel working with an individual student;
9. Liaison and co-ordination—guidance in school involves several members of staff and it is important that those who make up the guidance team work together with established lines of communication and areas of responsibility. There is likely to be the need for a 'named person' to take a co-ordinating responsibility for the guidance of students.

Importance of team approach

A team approach to guidance is essential, given the range of skills and knowledge required. Teachers who work with pupils in this way need to be released from some of their teaching load. This has implications for staff resources, for the

way school time is structured (to end the lack of flexibility which exists at present for dealing with pupils in any way other than in a class), for facilities (rooms available for small group work and individual interviewing) and for staff training. Relatively few teachers have any professional training in guidance or counselling. Most are trained as subject specialist and in the techniques required for teaching classes and as such are very strongly subject-orientated. Many do not feel competent to deal with small groups of pupils for guidance work or with individuals for interviewing, or even to deal with classes when handling 'subject matter' which requires a very different approach from much subject teaching.

Careers officers clearly have a major role to play as members of the team, given their professional training in counselling, psychometric testing, knowledge of industry and opportunities available to young people in education, government training schemes and employment, close links with local employers and other community-based organisations and their experience of working with young people not only in school and college but once they have left full-time education. Careers officers also have the advantage of working with a variety of organisations but without any vested interest in any particular one. As such they are often better able to act as a 'neutral' person with young people.

Stages of guidance

There are stages during the 14-18 year period when young people encounter a particular need for guidance, either because they are faced with new situations or experiences. The introduction of vocational and technological elements into the curriculum and increased emphasis on an understanding of industry affect the decision pupils have to make about subject choices at 14+, as well as the type of learning they experience and the range of establishments and personnel to which they have to adjust. Such change in the curriculum will demand therefore an equivalent response in the type of guidance available to young people as outlined below.

1 Choice at fourteen plus

The process of subject choice in the third year inevitably more complex because:

- (a) pupils are faced with a wider range of subjects from which to choose, some of which have obvious vocational implications;
- (b) many of the subjects may involve an area of study and type of learning previously not experienced.

Consequently it is vital that pupils are given adequate information and opportunity for discussion of their choices both in groups and individually, so that they are able to make the best choices for themselves. This involves not only giving pupils facts about courses and their vocational implications but also giving them a frame of reference within which to make judgements. They need an awareness of the factors about themselves which they need to take into consideration - abilities, interests, aspirations and other influences and some assessment of these, and about the changing world of work.

This can only be done adequately through a planned timetabled programme of guidance which should also include an introduction to decision-making skills and the study of male and female roles and equal opportunities. All pupils should have the opportunity for an individual interview when their choice of subjects can be discussed and various checks made of the following:

- (a) a proper understanding of the nature of the courses chosen or rejected;
- (b) motivation for study;
- (c) awareness of the vocational implications of the choice;
- (d) a realistic assessment of abilities taken into account.

It is essential that those interviewing pupils about choices have some format to work to and that a record is kept. Advance background information about the pupil is required by interviewers, particularly in terms of abilities, interests, activities and hobbies and career ideas.

There are obvious difficulties and needs inherent in the presentation of vocational courses to pupils at this stage.

- (a) Unrealistic expectations of pupils are parents of the increased job opportunities that will be available at the end of the course. Equal emphasis has to be placed on the educational value and purpose of vocational courses as on the vocational application of skills and knowledge acquired on the course.
- (b) Sex- stereotyped attitudes of pupils and parents toward certain occupational areas which inhibit the former from making certain choices. Methods of educating pupils and parents to more flexible in their thinking and aware of new and changing opportunities may need to be developed, and these may also need to be offered to some teachers.
- (c) How to communicate information about new courses, and help pupils to judge their level of interest and their ability to cope with them. This may affect what is taught lower down the school, for example the need for technology to be studied by all pupils in years 1-3 and a need to look for ways of giving pupils some appreciation of what courses involve, other than through written information and short talks by staff

Choice at sixteen plus

Young people are at present faced with a bewildering array of alternatives at this stage, each with its own element of the unknown. The development of vocational courses in schools will present them with yet another option, because previously, if young people wished to embark on a vocational course, they had to change to a college of further education. Helping young people on an individual basis to weigh up the possible advantages and disadvantages of different courses of action in different organisations is of major importance and is often best carried out by a careers officer with his or her wide knowledge of different organisations but with no vested interest in any particular one. However the careers officer is dependent on

school staff for back-ground information about pupils, including assessment of abilities, for guidance to be effective. This illustrates again the importance of a close working relationship between staff involved in guidance.

Although the study of vocational courses should be of great benefit to many pupils there are few problems which may arise and to which staff need to be sensitive.

- (a) Some pupils may wish to obtain jobs related to their course, having had an opportunity to develop strong interests and relevant skills - only to find very limited employment opportunities locally. Young people could find it particularly difficult to come to terms with this and to broaden their ideas.
- (b) Some young people may have obtained qualifications where they are in a minority according to their sex and come up against sex-stereotype attitudes of employers and staff in other establishments which are discouraging to them.
- (c) Some young people will have obtained qualifications in new subjects to new types of qualifications which are an unknown quantity to employers of staff of other educational establishments and where there may be some overlap with what will be studied at the latter.

These situations affect the type of guidance and support young people should be given whilst on course at 14-16 and the work that staff should be carrying out with organisations outside school, in order to help prepare the way for those pupils wishing to leave. Similar situations could also arise as young people continue with more vocational courses in the sixth form to 17-18 years, with a latter facing more rigid entry requirements of professional bodies and higher education establishment. It is vital that, as new courses are developed in schools, responsibility is taken by staff for publicising the standard and content of such courses to employers and staff in further and high education establishments, so that young people are not left on their own, trying to bring about changes

in attitude of those outside the school system.

On course

These curriculum development required that guidance staff should:

- (a) help young people to appreciate and understand the idea of transferable skills.
- (b) help pupils to review their progress on their courses and to reflect on what it tells them about themselves in terms of their strengths and weaknesses, likes and dislikes. Pupils may be on courses involving various options, modules or units and need assistance with such choices and their possible implications.
- (c) help certain pupils who are encountering problem in communications with adults. The introduction of profiling may highlight such stances as also may the inclusion of work experience on employers' premises.
- (d) give additional support and encouragement to pupils who are in a minority group in a course, possibly girls in technology and boys in office skills or community care.
- (e) prepare pupils for going out on work experience placements, assist with their choice of work placement, carry out relevant follow-up work and given the required counselling support during placement.
- (f) prepare pupils for working in more than one organisation (school, college, industry) where expectations and attitudes may differ.

A guidance programme

These guidelines were produced for third year guidance staff in schools where TVEI options were being introduced. They could be more generally applicable.

Facts required by pupils

1. (a) The content of courses available in the fourth and fifth years, particularly of new courses including technical and vocational elements.
- (b) The abilities/aptitudes helpful to coping with the courses plus an assessment of the pupils's own abilities and aptitudes.
- (c) An explanation of examination qualifications.
- (d) The value of different subjects, educationally.
- (e) The vocational implications of different subjects or subject combinations.
- (f) The option system which operates in school and why pupils are not always able to study the subjects they would like.
2. Factors in opting for technical and vocational courses
 These are basically the same as for the choices of other subjects, i.e. a pupil's ability, aptitudes, interests and aspirations. Improved methods of assessment of these need to be considered, as outlined below, particularly as pupils are faced with a more complex choice of subjects.
 - (a) Abilities-
 - (i) assessed in relation to subjects - strengths and weaknesses, underlying skills;
 - (ii) assessed in relation to other activities in and out of school; (assessment of abilities using psychometric tests?)
 - (b) Interests-
 - (i) assessed in relation to subjects;
 - (ii) assessed in relation to activities in and out of school;
 - (iii) assessed in relation to job activities/ skills-to obtain some indication of the general direction(s) in which pupil's occupational inclinations/preferences seem to lie at

present (use of interest inventory resulting in an interest profile).

- (c) Aspirations.
 - (d) Others, for example sex-stereotyped view of some courses/jobs only being suitable for boys and other for girls.
3. Reasons for a planned programme of preparation for option choice;
- (a) A more complex choice faces pupils now that technical and vocational elements are available as options;
 - (b) The new curriculum draws attention to the vocational implications of subject choices;
 - (c) To make sure pupils know why a choice of subjects is necessary and the timescale for decisions;
 - (d) To make the process of the choice and decision-making explicit;
 - (e) To ensure pupils know how to approach self-assessment;
 - (f) To give pupils the opportunity to investigate and discuss sex-stereotyped views of courses and occupations and help them be more open to the possibility of studying subjects previously only taken by minority of boys or girls;
 - (g) To ensure that parents are fully informed and given adequate opportunity to discuss with staff their son's/daughter choices;
 - (h) To ensure help is available to those pupils encountering problems either in making choices, or because of the limitations set by option groupings or numbers allowed on to courses. A 'Neutral' person, in possession of all relevant information about a pupil, needs to be available to discuss a pupil's choices individually with him/her and possibly the parents. Subject staff contribute vital information and guidance but some can experience

difficulty in giving objective advice when concerned about their own subject's popularity.

Possible programme of events

School staff

Introductory sessions—need for subject choice, timing of decisions. Look at the process of decision-making; practical exercises. Relate to decisions about subjects—facts required and factors influencing choice.

Analysis of the abilities helpful in coping with subjects being studied at present—pupils assess themselves. Subject staff assessments to be made known to pupils at some stage.

Assessment by pupils of their interest levels in subjects studied at present, for example, a ranking exercise.

Information to be given about courses available in 4th and 5th year including technical and vocational. Analysis of the abilities helpful in coping with the courses and assessment by pupils and staff.

Assessment by pupils of their interest level in the various courses available.

Value of different subjects educationally and of aiming for a balanced curriculum.

Investigations into an discussion of sex-stereotyped views of courses and occupations.

Contributions from careers officer(s)

Vocational implications of subjects and subject combinations. Introduce basic awareness of entry requirements and other ways in which occupations vary.

Contributions from careers officer(s)

Assessment of general inclinations in relation to the types of activities involved in occupations.

Use of interest inventory to produce an interest profile. Investigations into other factors which might affect pupils'

choices.

School staff

Relate pupils' assessments and preferences to option schemes available. Individual interviews.

Careers officer

Individual interviews with pupils unsure about technical and vocational subjects on a referral basis. The aim of these will be to help pupils to decide what is best for them as individuals regardless of other factors, such as numbers required for option groupings.

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